

D.P.R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	1-95-9(21)291	1	22

STATE OF MAINE STATE HIGHWAY COMMISSION



FRENCH ROAD OVER INTERSTATE 95 IN THE TOWN OF LUDLOW AROOSTOOK COUNTY FEDERAL AID PROJECT NO. I-95-9(21)291 LENGTH OF PROJECT = 0.426 MI.

SCALES

SURVEY - 1" = 50' (HOR.)
1" = 5' (VERT.)

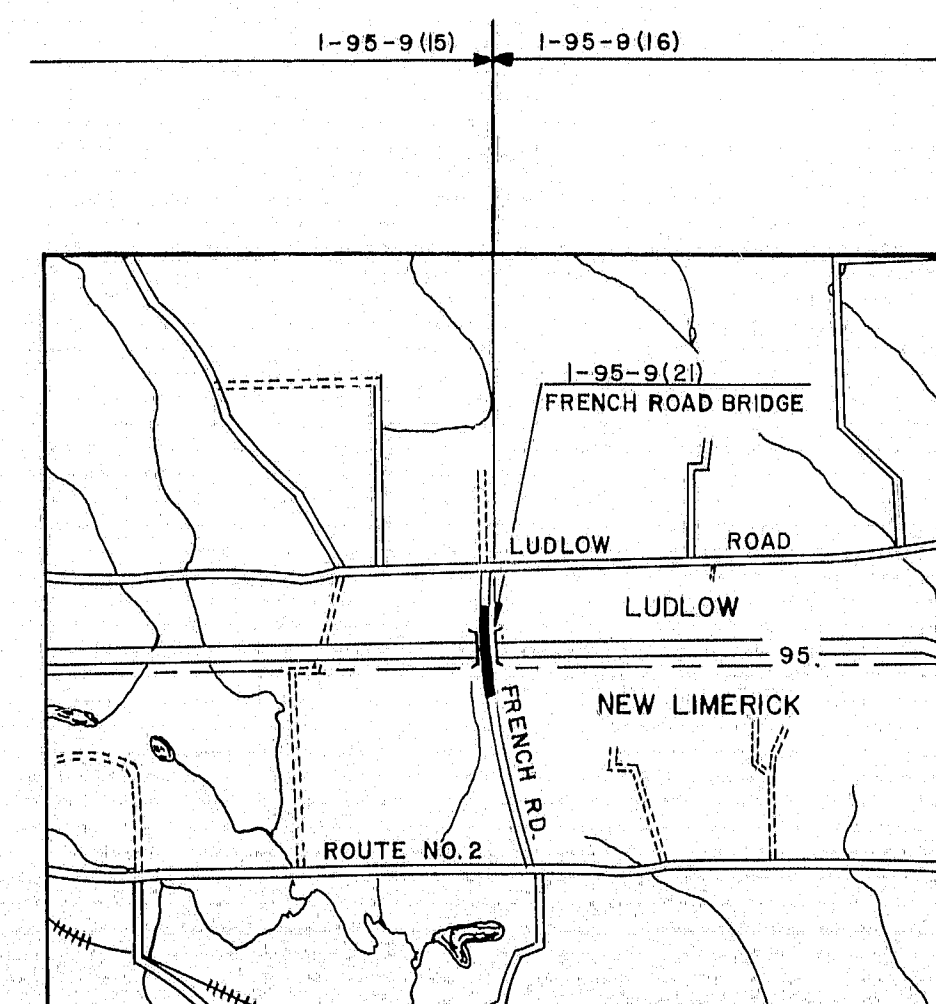
CROSS SECTIONS - 1" = 5'
DATE PROJECT COMPLETED 18 MAY '66

INDEX OF SHEETS

- 1 - TITLE SHEET
- 2 - GENERAL PLAN & QUANTITIES
- 3 - TYPICAL SECTIONS
- 485 - PLANS - FRENCH ROAD
- 6-14 - CROSS SECTIONS - FRENCH ROAD
- 15 - FOUNDATION SURVEY
- 16 - ABUTMENT NO. 1
- 17 - ABUTMENT NO. 2 - APPROACH SLAB
- 18 - PIERS
- 19 - STRUCTURAL STEEL & BLOCKING
- 20 - SLOPE PAVING
- 21 - SUPERSTRUCTURE
- 22 - REINFORCING STEEL

STANDARD DETAILS SHEETS

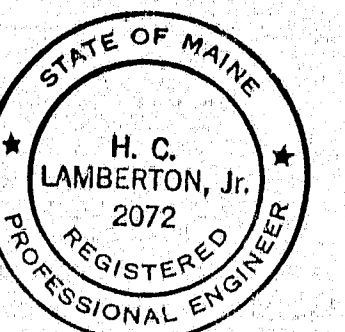
- BD 101-64 - BEARING DETAILS
- BD 103-64 - BEAM SPLICES
- BD 104-64 - DIAPHRAGMS, ARMORED JOINT,
SHEAR CONNECTORS, DRAIN
- BD 105-64 - EXPANSION DAMS
- BD 107-64 - STEEL RAIL
- BD 108-64 - ALUMINUM RAIL
- 2-64 - GUARD RAIL



LOCATION MAP
APPROX. SCALE - 1" = 1 MILE

TRAFFIC

A.D.T. 1965 - 165
A.D.T. 1985 - 260
D.H.V. - 30
T - 14%
D - 60%
V - 50 MPH



HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
NEW YORK BOSTON KANSAS CITY

H. C. Lambertson, Jr. 9/19/64
DATE

APPROVED

MAINE STATE HIGHWAY COMMISSION

DATE

Paul W. Stearns 9/19/64
CHAIRMAN

Carl M. Stedman 9/19/64

Bartholomew A. Roche 9/19/64

Raymond J. ... 9/19/64
CHIEF ENGINEER

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

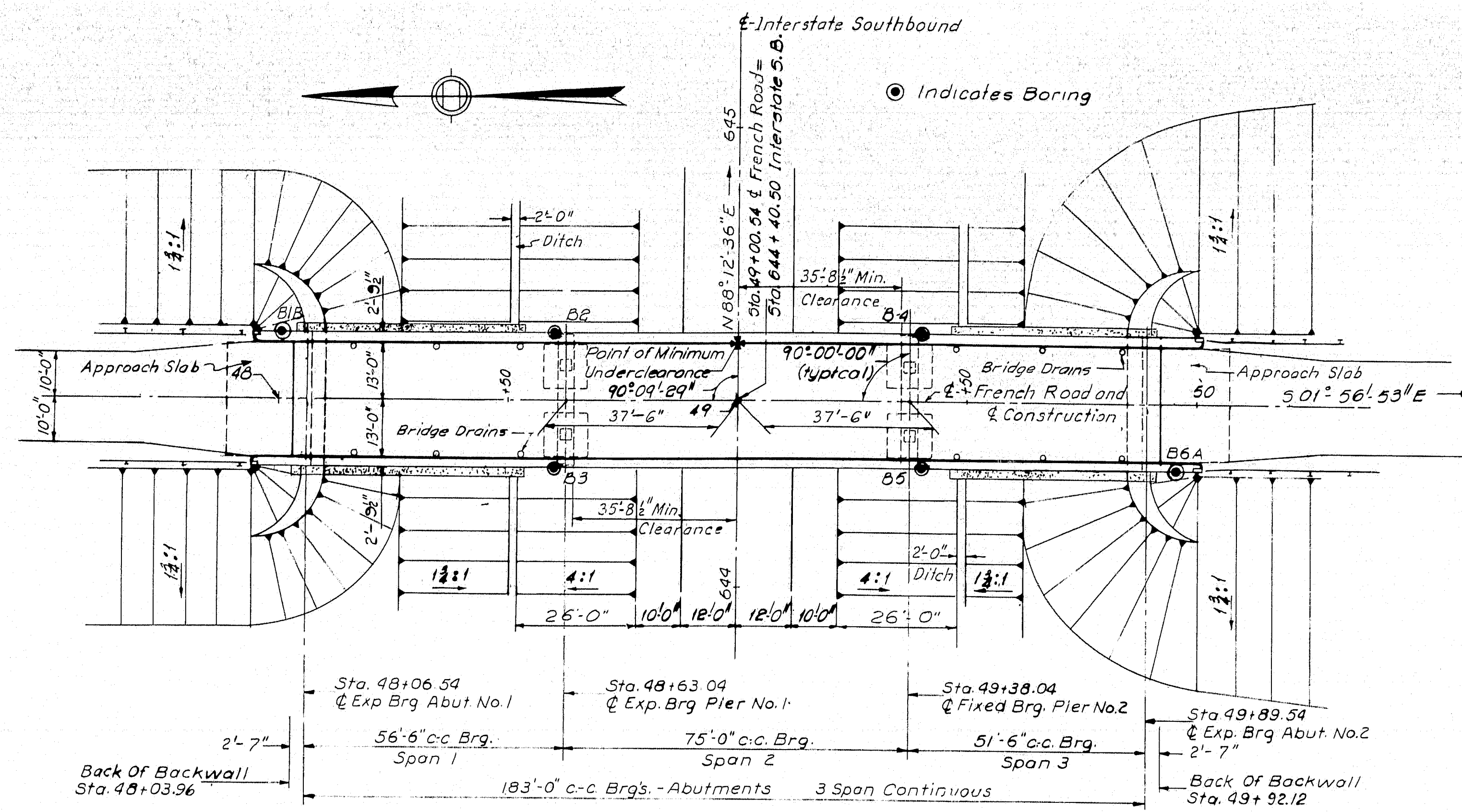
REGION 1

APPROVED

DIVISION ENGINEER DATE

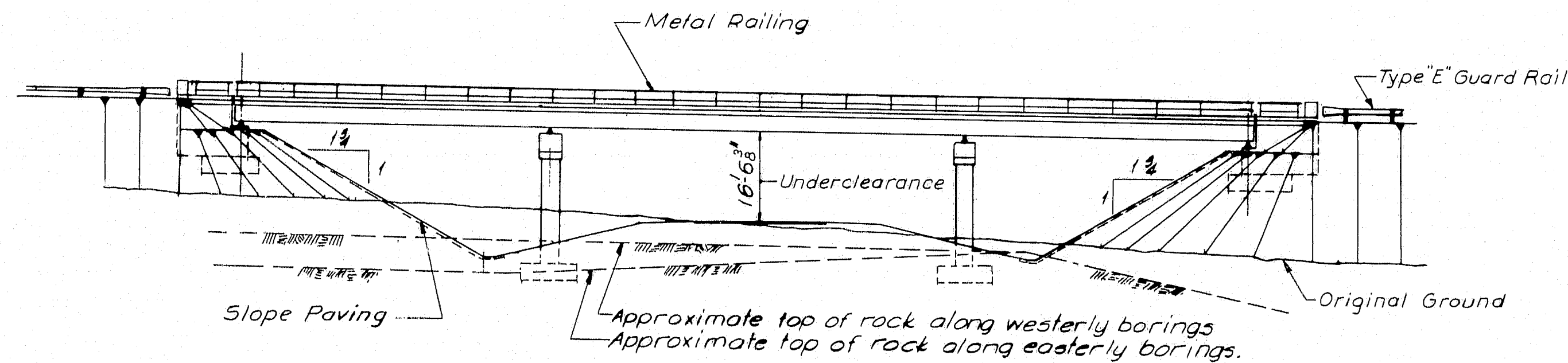
95-75

0 1 2 3 4 5 INCHES

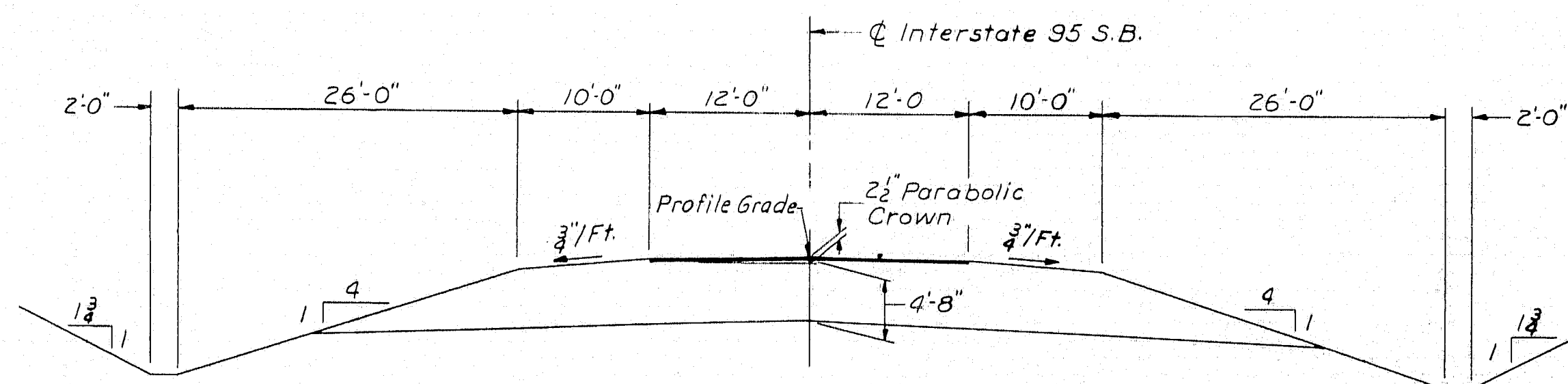


PLAN
1"=20'

Note:
For Details of Bridge Drains
See Standard Details BD-104-64



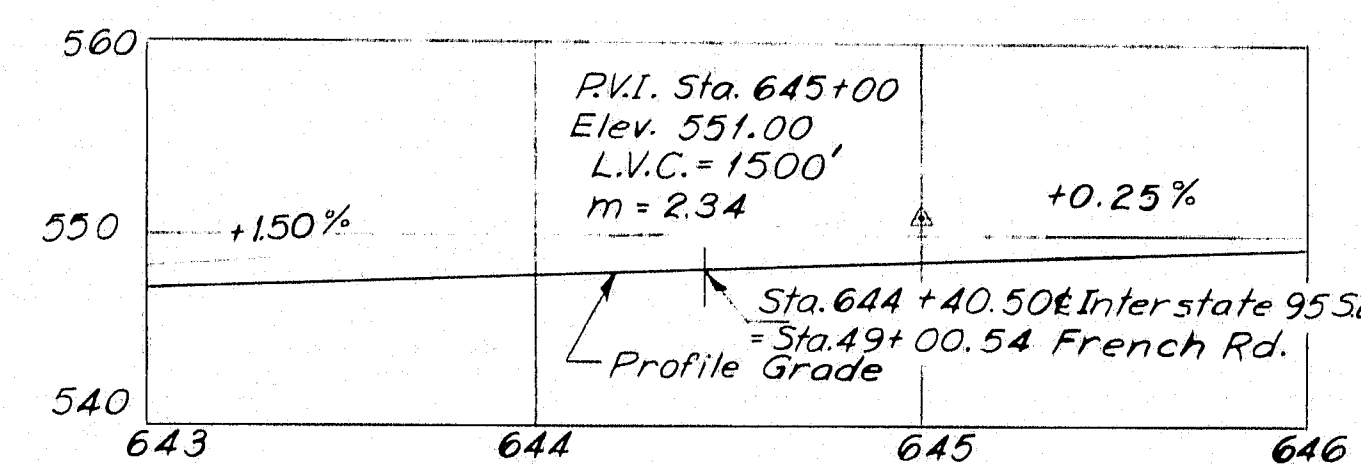
ELEVATION
1' = 20'



SECTION INTERSTATE 95
1' = 10'

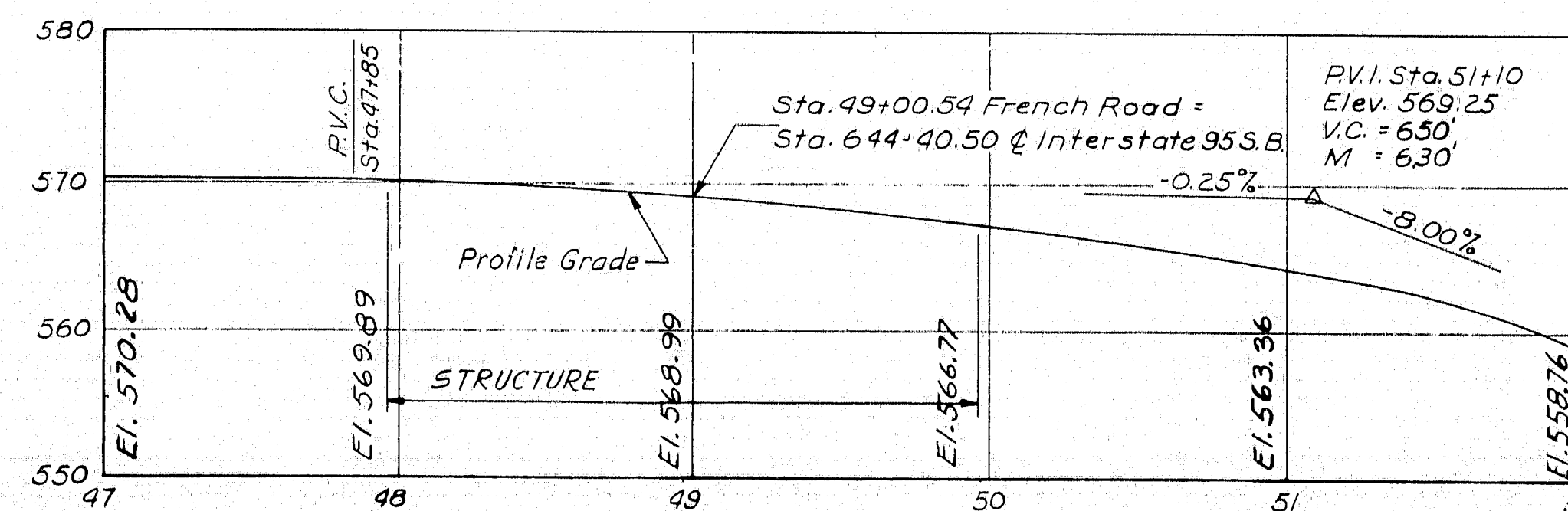
ESTIMATE OF QUANTITIES				
Item No.	Description	Unit	Quantity	Bridge Quantities
201-5	Clearing	Acres	1	
202-5	Removing Trees (9" 24")	Each	1	
203-9	Earth Excavation	Cu. Yds.	1,100	
	Rock Excavation	Cu. Yds.	10	
	Muck Excavation	Cu. Yds.	10	
204-10	Structural Earth Excavation - Drainage	Cu. Yds.	30	
204-12	Structural Earth Excavation - Abuts. & Ret. Walls	Cu. Yds.	55	55 Cu. Yds.
204-14	Structural Earth Excavation - Piers	Cu. Yds.	28	28 Cu. Yds.
204-15	Structural Rock Excavation - Piers	Cu. Yds.	42	42 Cu. Yds.
205-9	Granular Borrow	Cu. Yds.	52,000	
205-12	Gravel Borrow (I.P.M.)	Cu. Yds.	1,900	
302-7	Gravel Base Course (I.P.M.)	Cu. Yds.	3,700	
310-6	Sprinkling	Units	200	
311-6	Calcium Chloride	Tons	10	
401-1	Gravel Surface Course	Cu. Yds.	425	
404-29	Bituminous Concrete Surface Course, Type "B"	Tons	60	60 Tons
501-7	Road Tar	Gals.	2,300	
601-11	15-Inch Corrugated Metal Pipe	Lin. Ft.	60	
602-12	18-Inch Asphalt Coated Corrugated Metal Pipe	Lin. Ft.	83	
701-33	Portland Cem. Conc., Abutments & Retaining Walls	Cu. Yds.	178	178 Cu. Yds.
701-35	Portland Cem. Conc., Piers	Cu. Yds.	75	75 Cu. Yds.
701-40	Portland Cem. Conc. Rdwy. & Sidwks. Slabs: Steel Bridges	Cu. Yds.	167	167 Cu. Yds.
701-53	Curing Box For Concrete Cylinders	Each	1	1 Each
702-103	Structural Steel, Fabricated & Delivered	Lump Sum		Lump Sum
702-104	Structural Steel, Erection	Lump Sum		Lump Sum
702-105	Structural Steel, Field Painting	Lump Sum		Lump Sum
705-13	Reinforcing Steel, Delivered	Lbs.	56,778	56,778 Lbs.
705-14	Reinforcing Steel, Placing	Lbs.	56,778	56,778 Lbs.
805-8	Bridge Rail	Lin. Ft.	400	400 Lin. Ft.
807-9	Membrane Waterproofing	Sq. Yds.	538	538 Sq. Yds.
807-11	Epoxy Resin Surface Sealant	Sq. Yds.	60	60 Sq. Yds.
808-6	Slope Paving	Sq. Yds.	400	
901-24	Vertical Bridge Curb - Type I	Lin. Ft.	388	388 Lin. Ft.
901-25	Vertical Bridge Curb - Circular - Type I	Lin. Ft.	21	21 Lin. Ft.
905-27	Guard Rail - Type "E"	Lin. Ft.	2,362	
905-37	Guard Rail - Type "E" - Terminal Section	Each	10	
905-49	Single Posts - Type "A"	Each	2	
908-10	Loom (I.P.M.)	Cu. Yds.	675	
909-7	Sodding	Sq. Yds.	110	
909-9	Jute Matting - Weave "H"	Sq. Yds.	1,070	
910-13	Seeding - Method No. 2	Units	128	
912-7	Hay Mulch	Tons	8	

* Undetermined Location
Estimated weight of Structural Steel including Drains is 153,400 Lbs.



PROFILE SOUTHBOUND

Horiz: 1"=50'
Vert: 1"=10'



PROFILE-FRENCH ROAD

Horiz: 1"=50'
Vert: 1"=10'

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS

NEW YORK BOSTON KANSAS CITY

S. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	1-95-9 (21)291	2	22

DESIGN:
A.A.S.H.O. Standard Specifications for Highway Bridges 1961 with Interim Specifications, 1961, 1962, 1963 & 1964.

CONTRACT:
State of Maine, State Highway Commission, Standard Specifications for Highways and Bridges, Revision of January, 1956 and Supplemental Specifications of Feb. 1960.

LIVE LOADING

H-20-44

FOUNDATIONS

Abutments No. 1 & No. 2, Maximum Design Soil Pressure, 2.25 tons/sq. ft. Piers No. 1 & No. 2, Speed Footing on ledge.

ALLOWABLE STRESSES

Concrete (n=10) ~ f_c = 1200 psi.
Reinforcing Steel, Int. Grade ~ f_s = 20,000 psi.
Structural Steel ~ f_s = 20,000 psi. (A.S.T.M. A36)

CONCRETE CLASSIFICATION

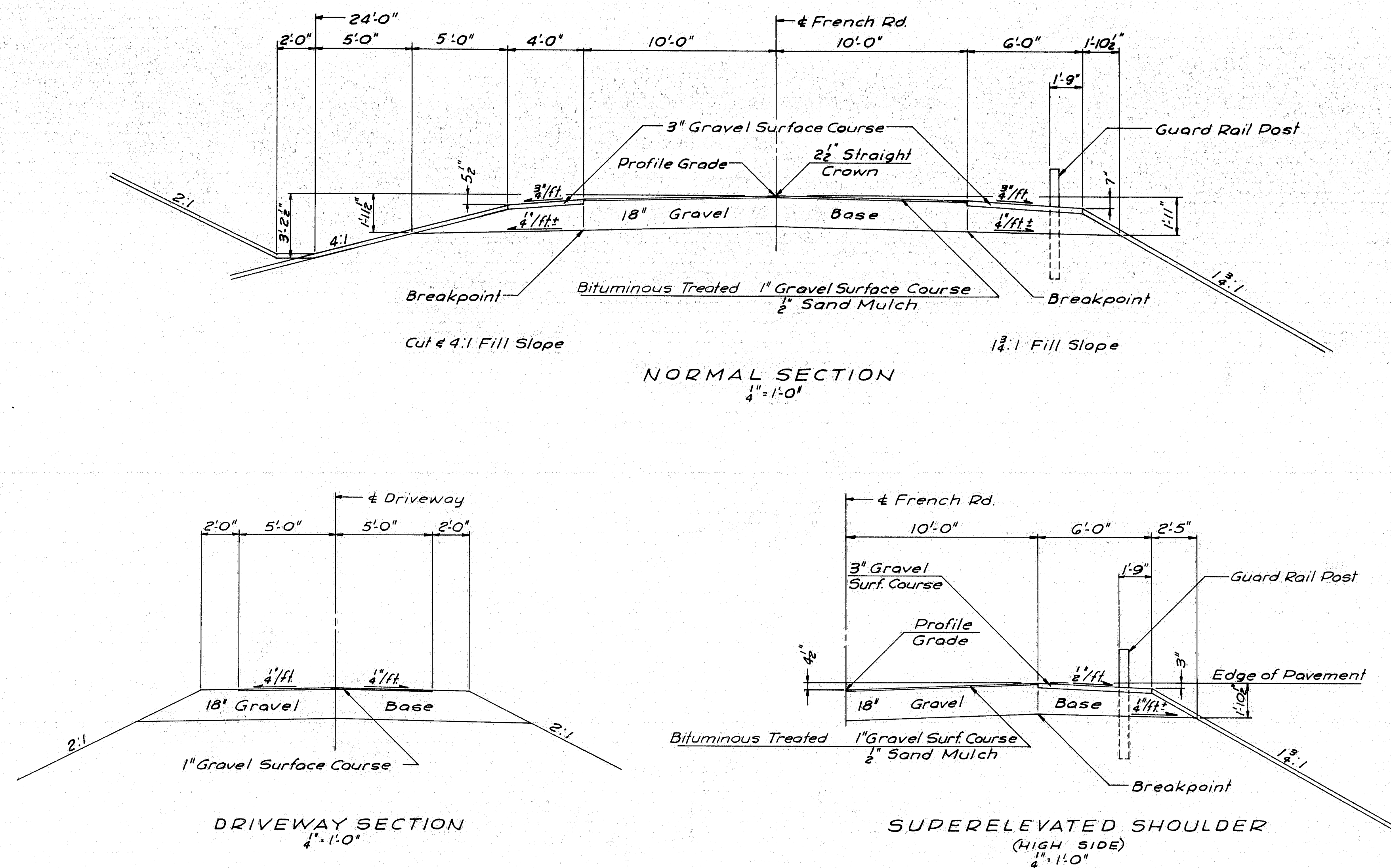
All concrete shall be Class "A" except slope paving which shall be Class "Y".

DESIGN - I.S.	DETAIL - D.A.T.	BRIDGE NO.
TRACE -	SURVEY -	PLOT -
CHECK - P.R.N.		
STATE HIGHWAY COMMISSION		
BRIDGE DIVISION		
FRENCH ROAD		
OVER		
INTERSTATE 95		
IN THE TOWN OF		
LUDLOW		
AROOSTOOK COUNTY		
GENERAL PLAN AND QUANTITIES		

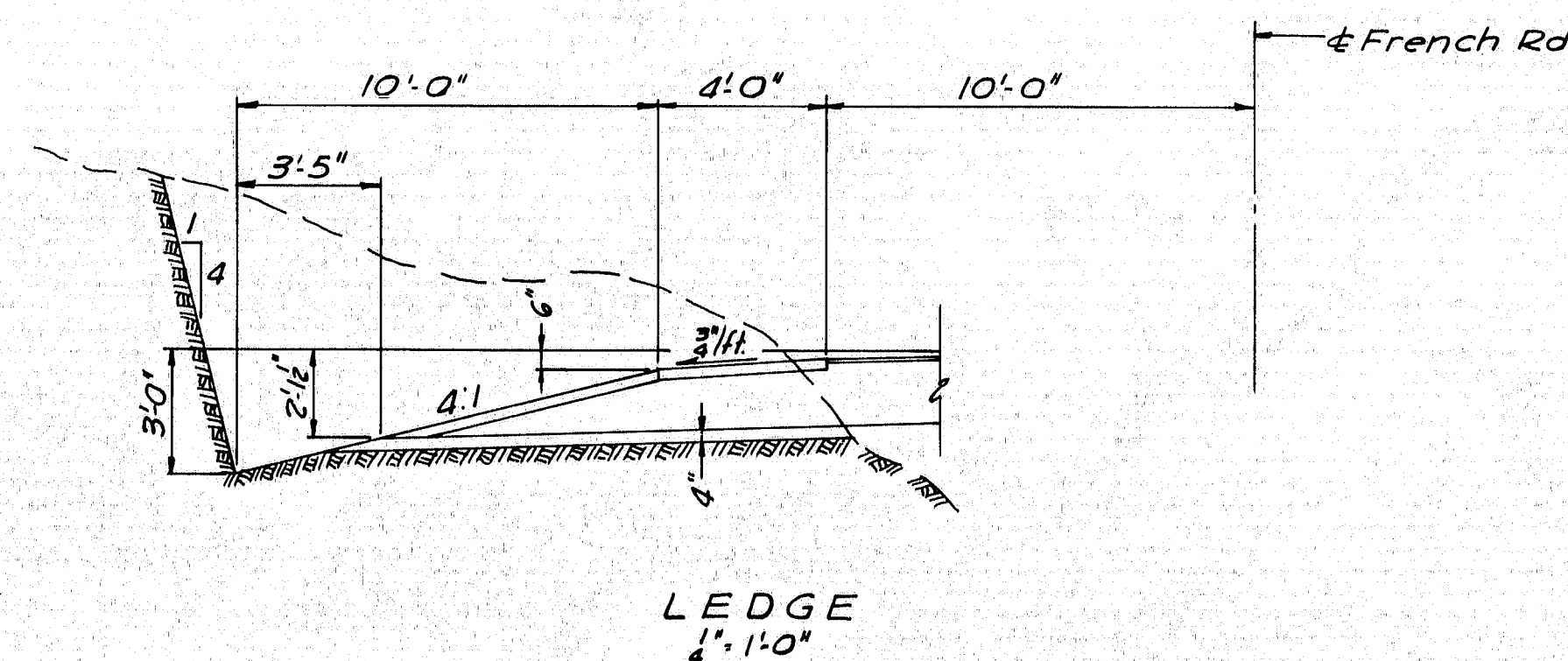
SHEET 2 OF 22 AUGUSTA, MAINE OCTOBER 1964

95-76 LUDLOW (21)

B. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	1-95-9(21)291	3	22



Notes:
For all sections depth of ditch depends on local conditions. Depth of base as shown may be changed to meet local conditions.
The pavement and base depths as shown on the plans are intended to be nominal.

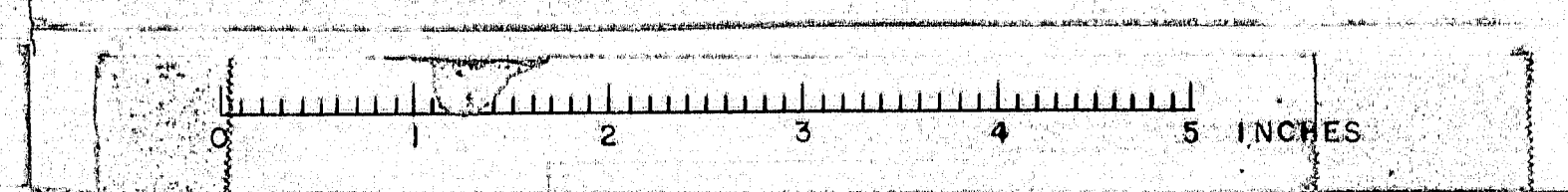


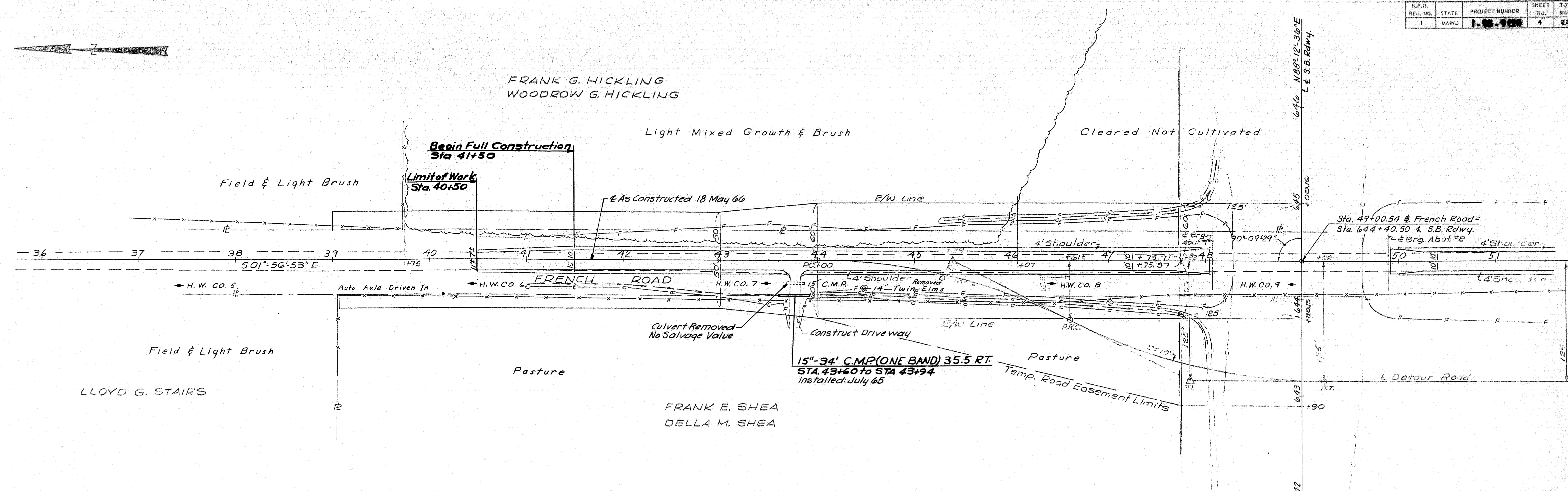
MAINE STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

TYPICAL SECTIONS

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
NEW YORK BOSTON KANSAS CITY

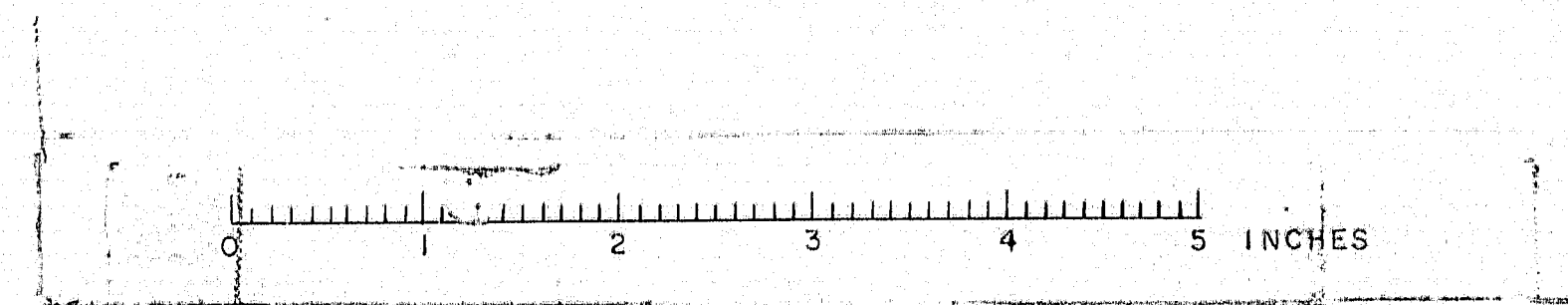
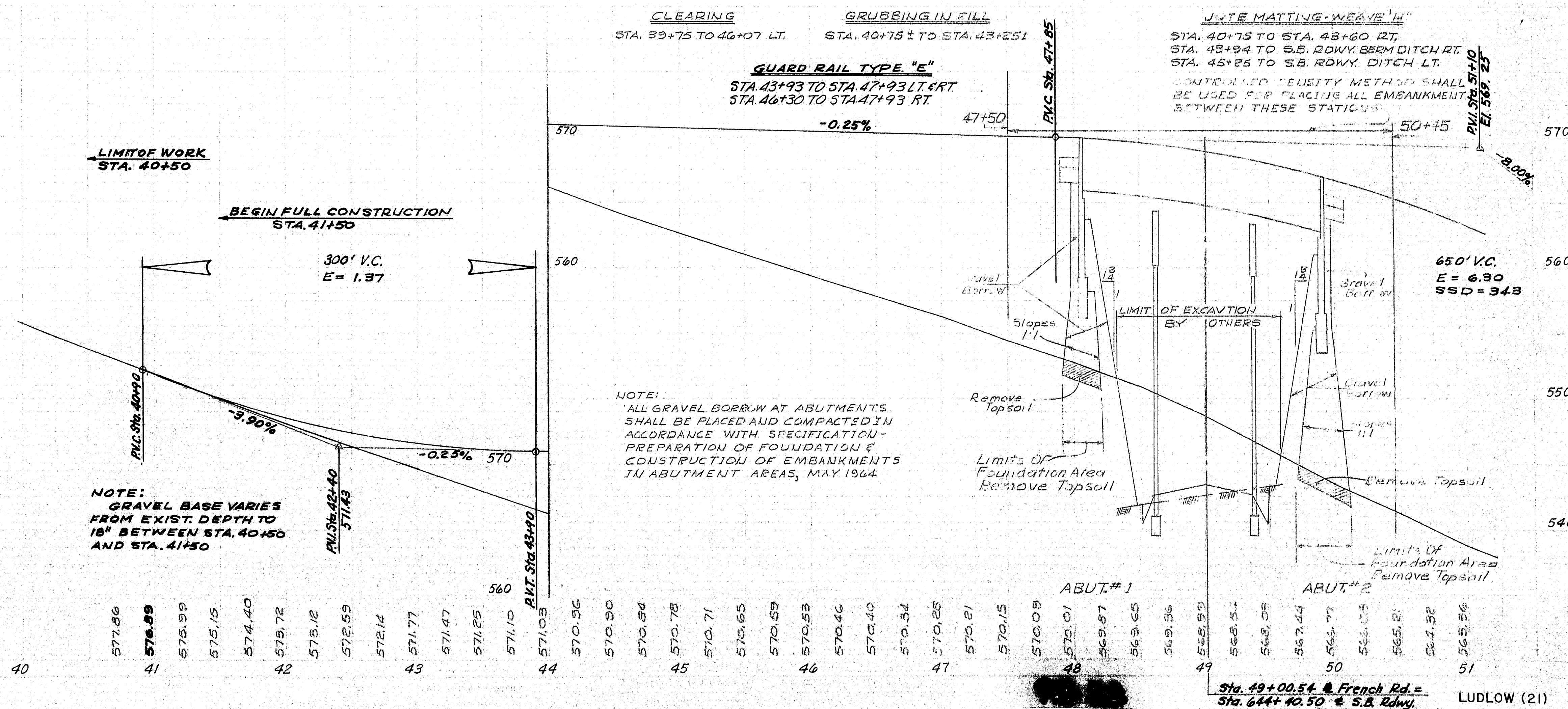
95-97 LUDLOW (21)





GENERAL NOTES

1. ALL LOAM AREAS AND DEPTHS MUST BE AUTHORIZED BY THE ENGINEER UNLESS SPECIFICALLY CALLED FOR ON THE TYPICAL SECTIONS, PLANS OR IN THE SPECS. LOAMING OF SLOPES HAS BEEN ESTIMATED ON A 2" DEPTH.
2. ALL UTILITY FACILITIES ARE TO BE ADJUSTED AS NECESSARY BY THE RESPECTIVE UTILITIES UNLESS NOTED.
3. THE UTILITIES INVOLVED IN THIS CONTRACT ARE THE NEW ENGLAND TEL. & TEL. CO. AND THE HOULTON WATER CO.
4. SEEDING METHOD NO. 2 AND HAY MULCH ON ALL SLOPES OR AS DIRECTED BY THE ENGINEER.
5. ALL CLEARING PAY LIMITS (AS NOTED) ARE SHOWN ON THE PLANS BY PLUS STATIONS ON THE ±.
6. ALL MUCK EXCAVATION SHALL BE REPLACED WITH GRANULAR BORROW.
7. IN MUCK AREAS, ALL MUCK EXCAVATION UNDER CULVERTS SHALL BE PAID FOR AS ITEM 203-9 EARTH EXCAVATION.
8. ALL FILL SLOPES SHALL BE LOAMED UNLESS OTHERWISE DIRECTED BY THE ENGINEER.



Sta. 49+00.54 & French Rd. = Sta. 644+40.50 & S.B. Rdwy. LUDLOW (21)

CEA, JAX 1-64
FBO, 2-64

6

GRUBBING IN FILL
STA 40+75± TO STA. 43+25±

575.15

26

28

41+50

BEGIN FULL CONSTRUCTION
STA. 41+50

570

C = 100
F = 6
JUTE MATTING WEAVE "H"
STA 40+75 TO STA. 43+00

576.89

23

28

570

41+00

GRAVEL BASE VARIES FROM EXIST. DEPTH
TO 18" BETWEEN STA. 40+50 TO STA. 41+50

C = 86
F = 3

570

40+50

LIMIT OF WORK
STA. 40+50

570

570

40+00

570

575

39+50

575

590

590

580

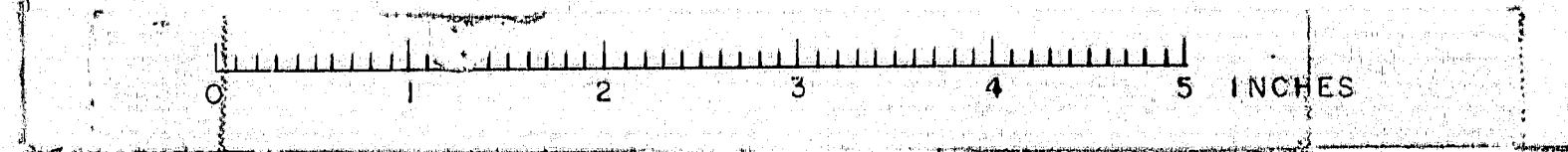
39+00

580

B.P.R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	95-80	8	22

95-80

(21)



JAY, CEA 1-64
PBD 2-64

6

2

570.78

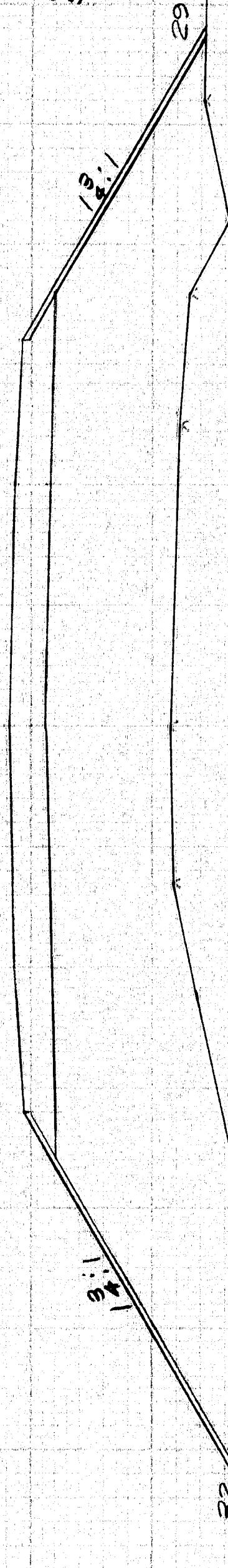


45+00

555

555

570.90



44+50

560

560

571.03



44+00

560

560

571.25



43+50

560

560

571.77



43+00

560

560

572.59



42+50

565

565

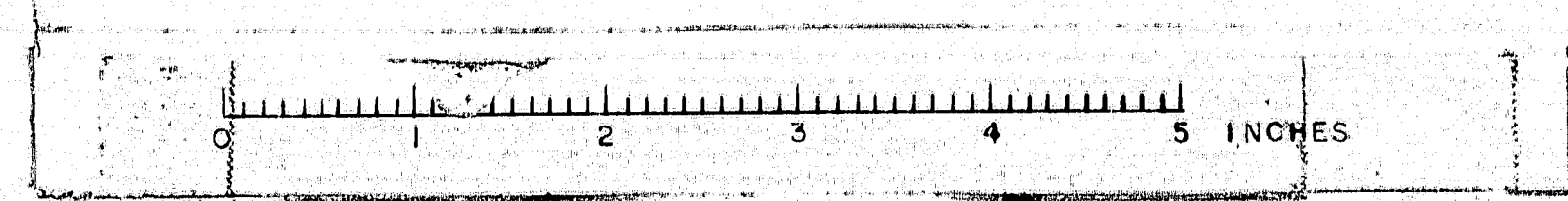
573.72



42+00

565

565

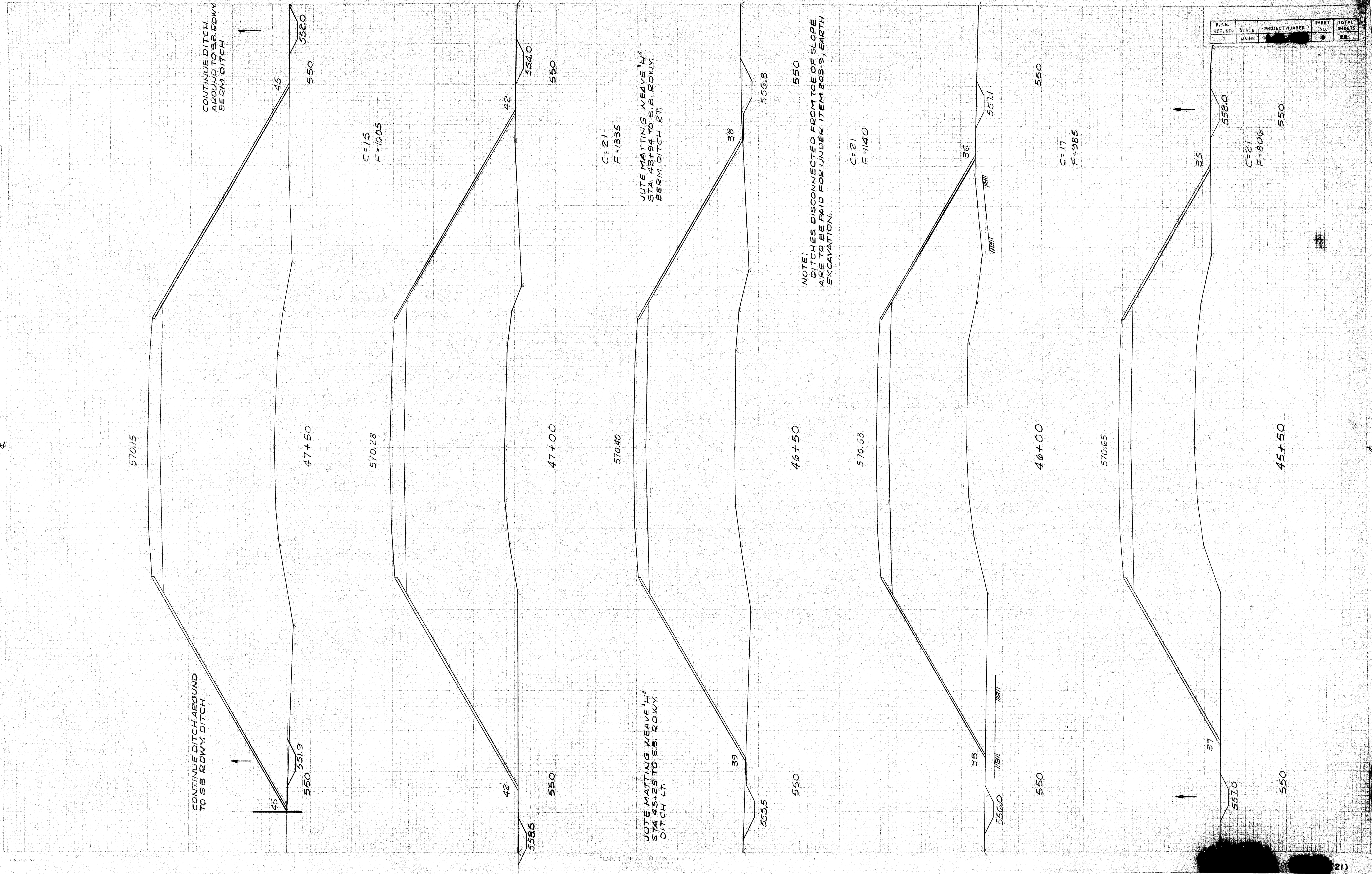


B.P.R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	100-100	7	22

C.E. JAY 1-64
ADD. 2-64

2

4

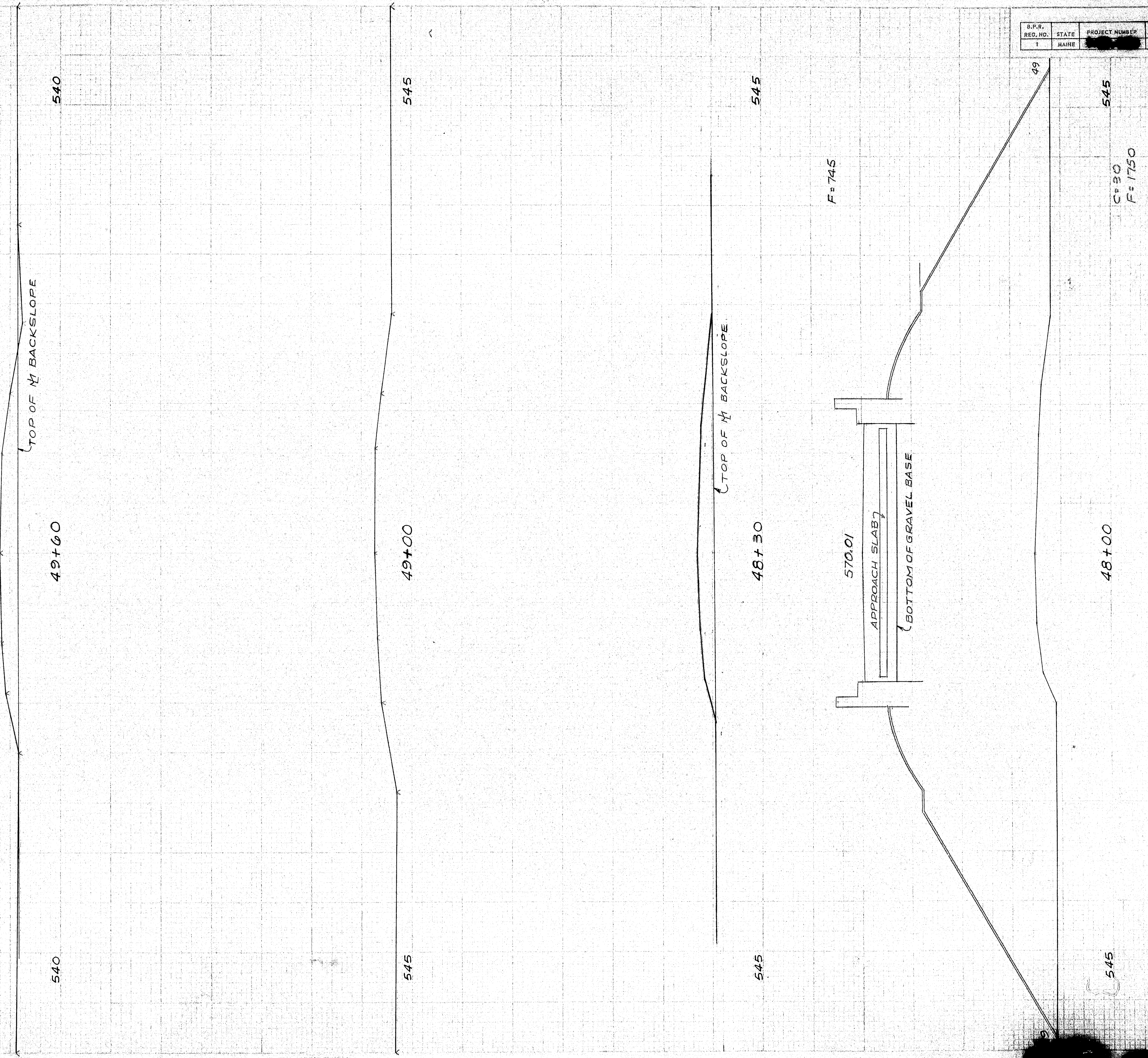


S.P.R.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE		8	22

WAY B.D. CEA 1-64 2-64

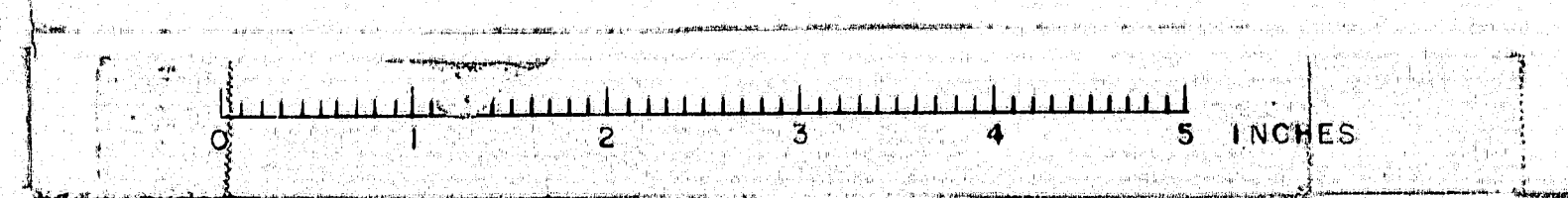
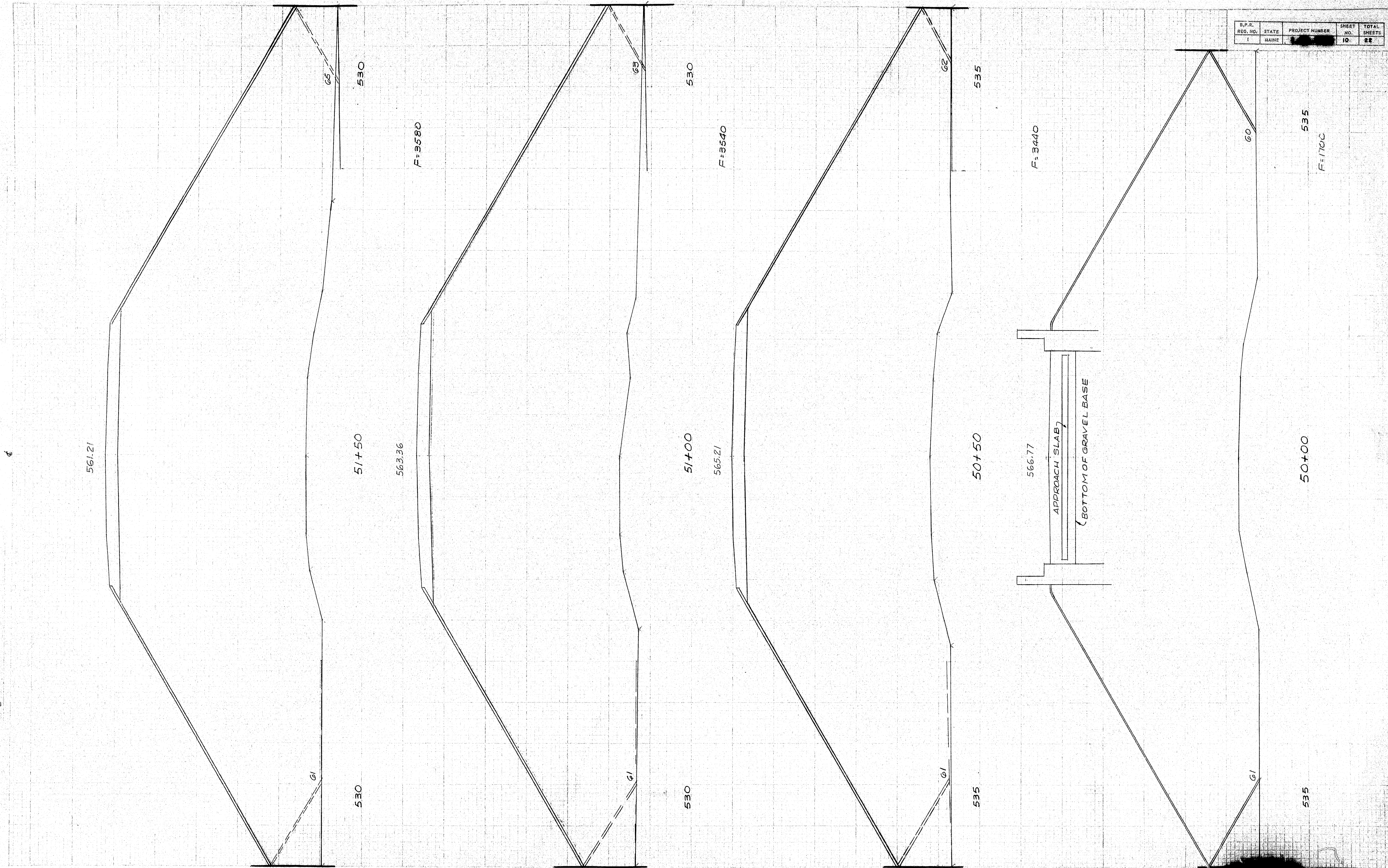
2

B.P.R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE		9	22



CEA, JAY, 1-64
RBD, 2-64

2



D.P.R.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE		22	22

CEA, JAY 1.44
PBD 2.44

2

-3"

0"

549.62

51

525

53+50

525

52

-2 1/2"

552.96

-2 1/2"

F = 2360

52

530

53+00

530

55

530

556.01

F = 2740

55

530

52+50

530

59

558.76

F = 3180

59

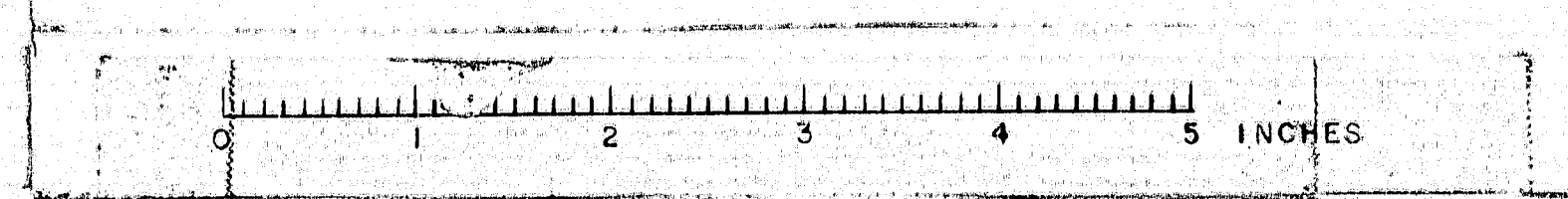
530

52+00

530

64

F = 3500



B.P.R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE		11	22

(21)

JAY L. CEA
P.B.D.
1-64
2-64

2

526.15

EXIST. DRIVE

34

3:1

518.3

DITCHES DISCONNECTED FROM THE
TOE OF SLOPE ARE TO BE PAID FOR
UNDER ITEM 203-3, EARTH EXCAVATION

510

JUTE MATTING WEAVE "1/4"
STA. 55+75 TO STA. 57+00

56+50

530.05

C=12
F=815

510

3:1

30

520.0

515

56+00

38

515

C=4
F=1015

534.05

35

42

55+50

515

538.05

F=1205

40

520

55+00

40

520

-4 1/2"

+4 1/2"

542.05

F=1320

42

520

54+50

520

-3 3/4"

+2 1/4"

545.98

F=1545

47

525

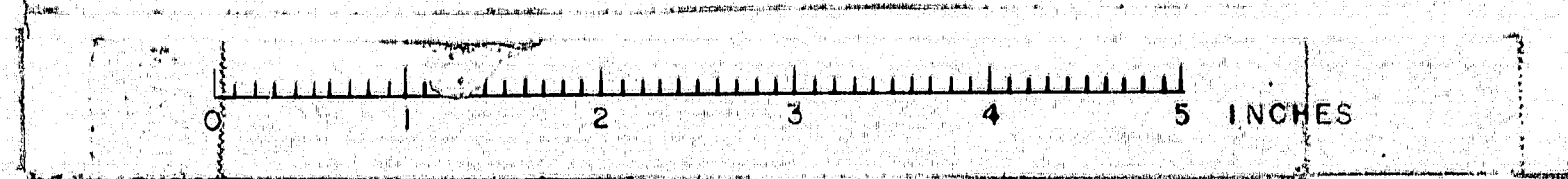
54+00

F=1960

525

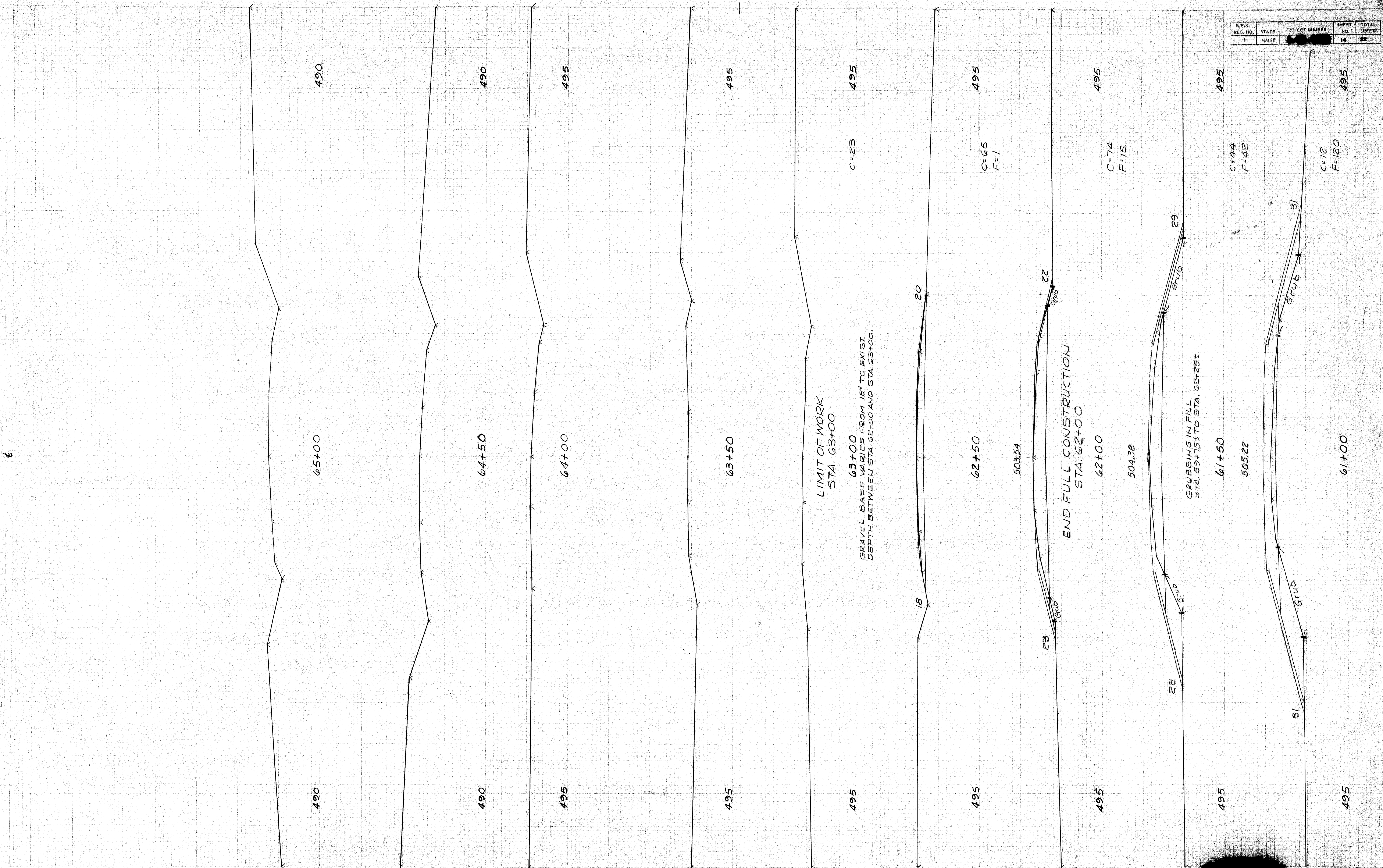
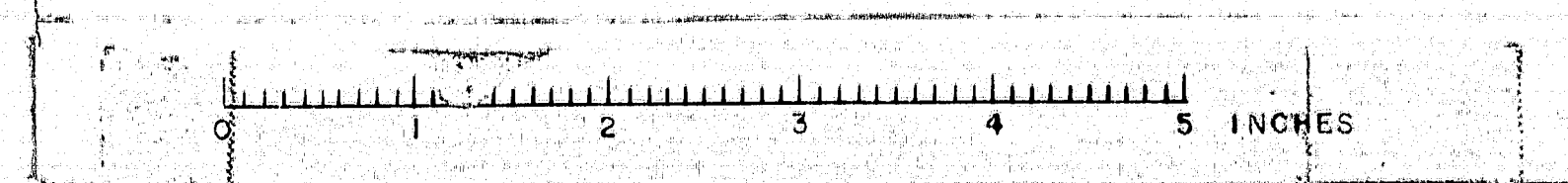
46

PLATE 3, CROSS SECTION

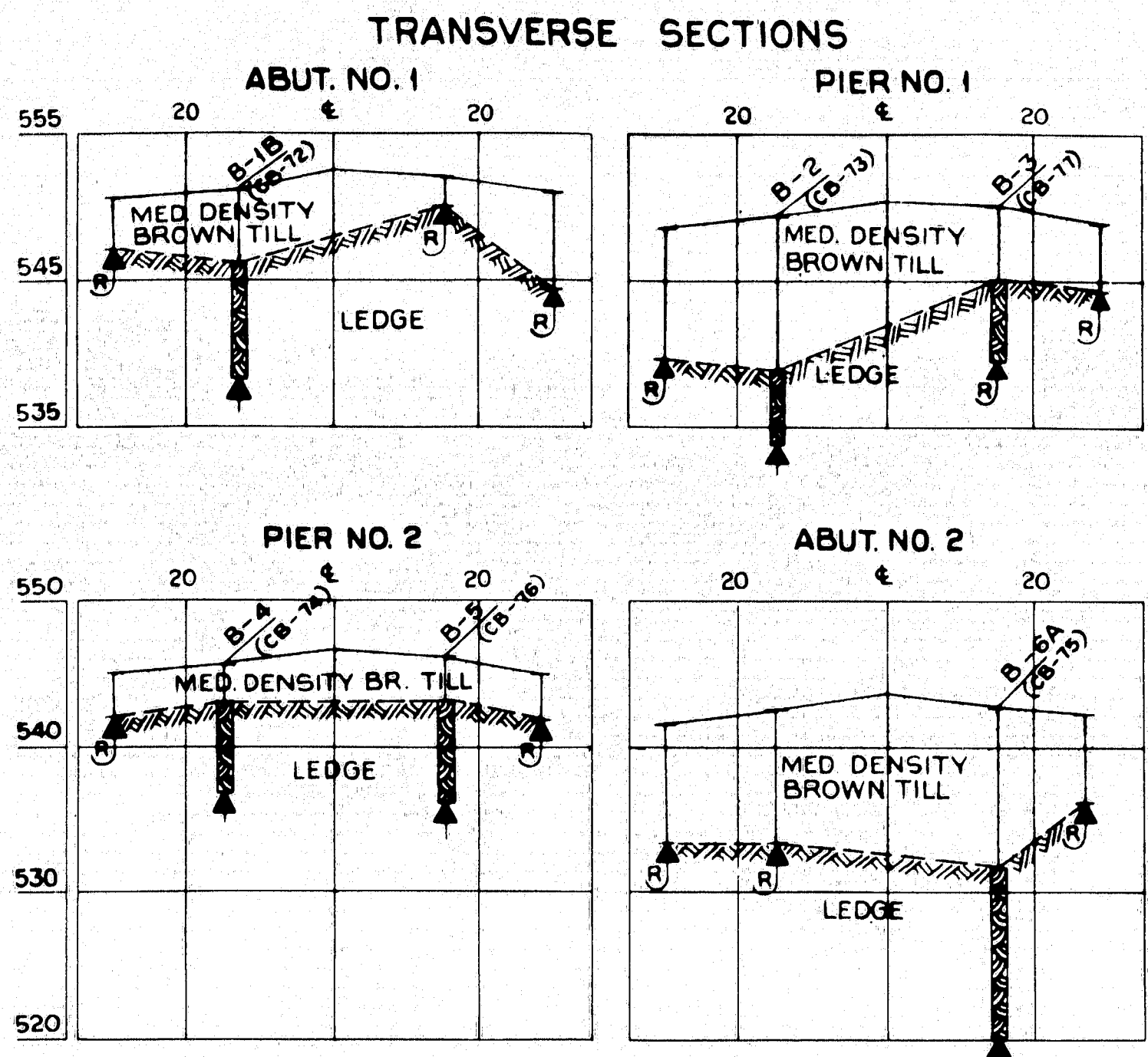
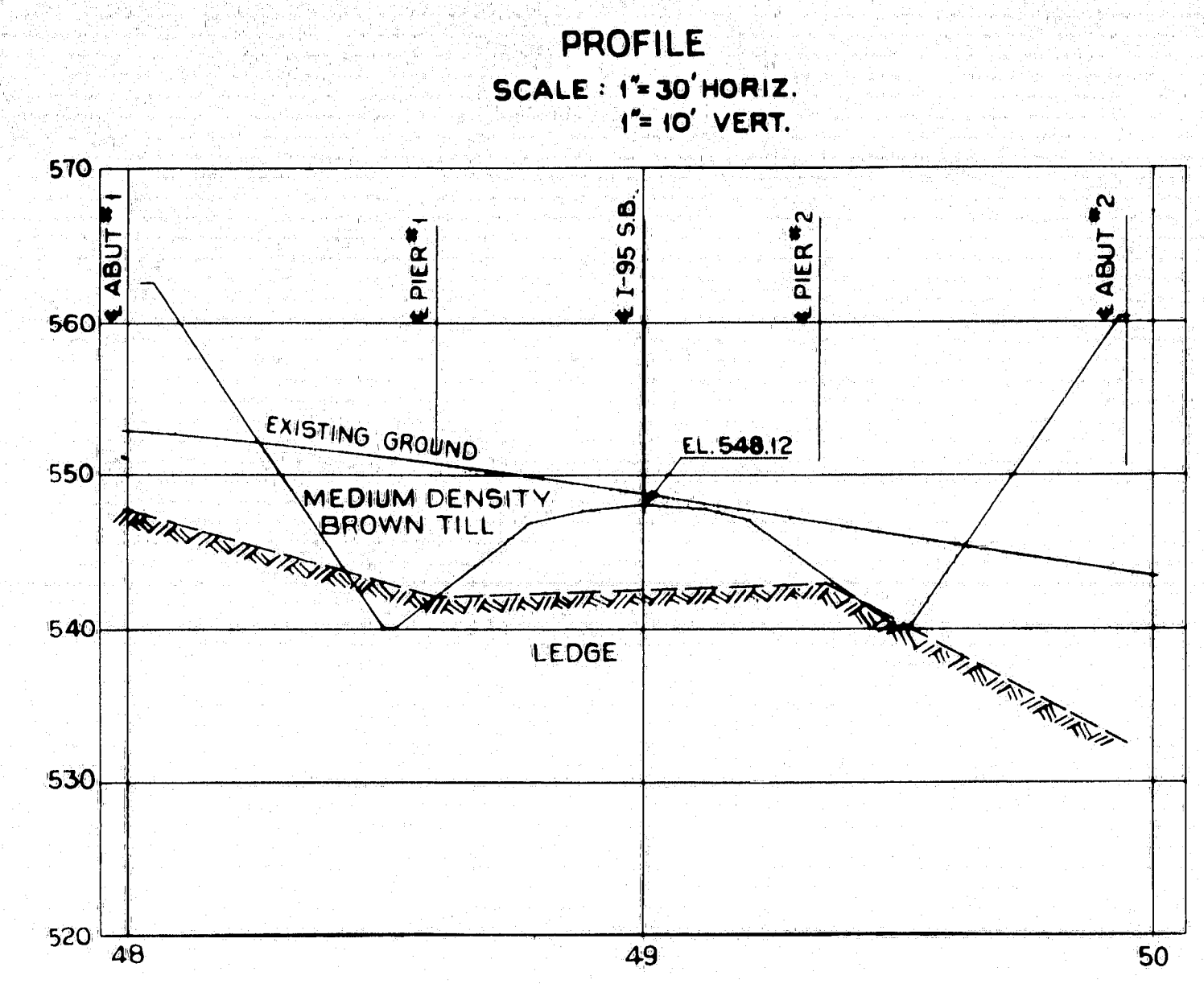
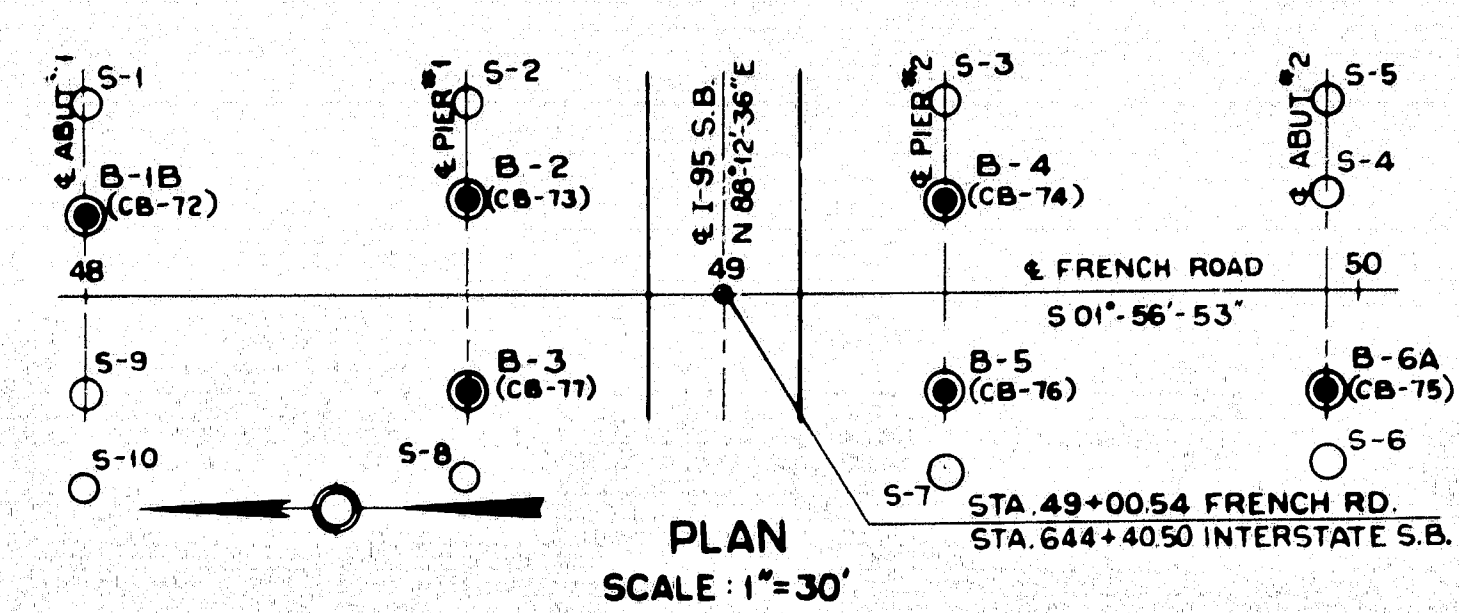


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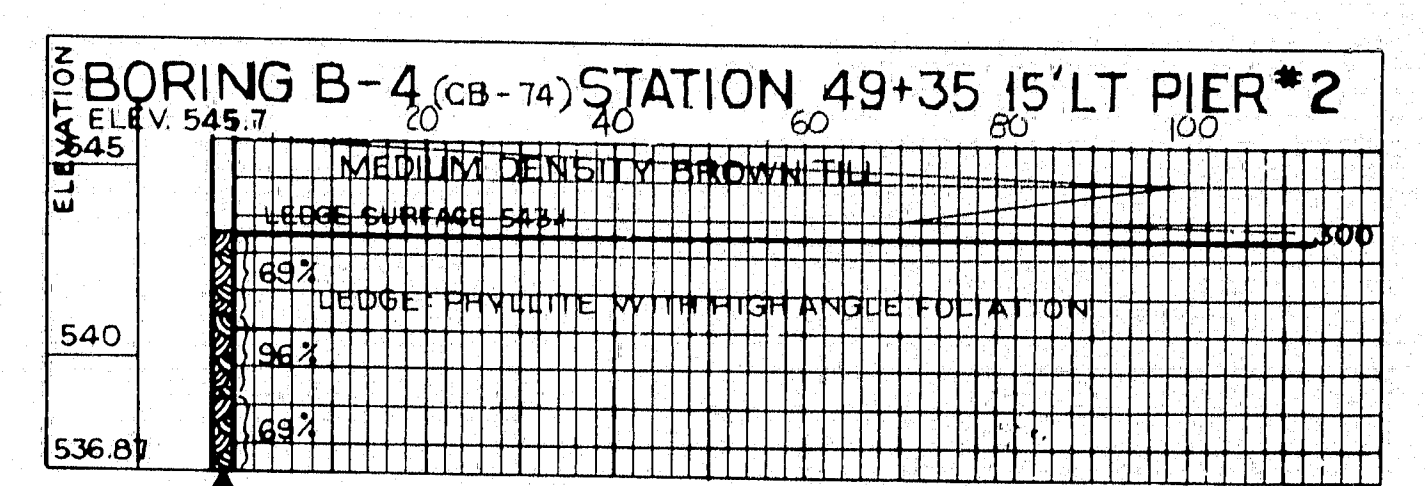
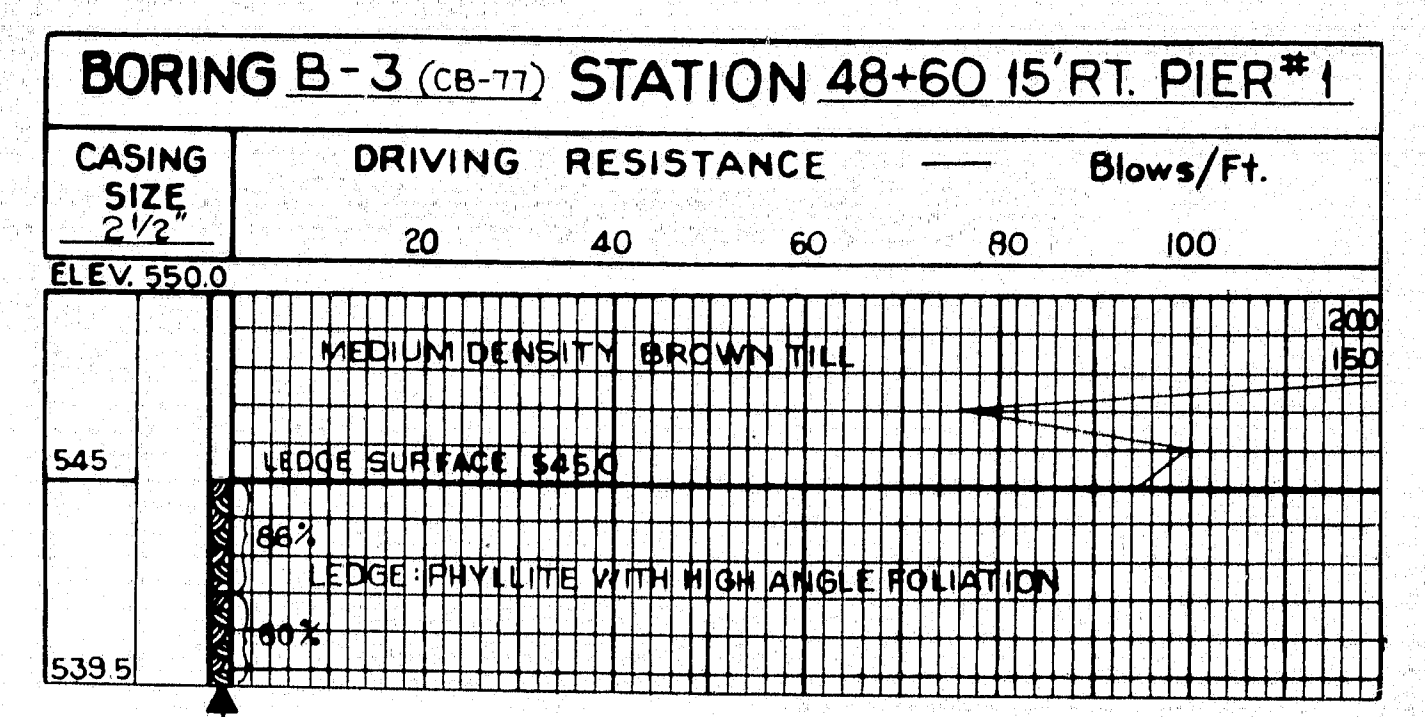
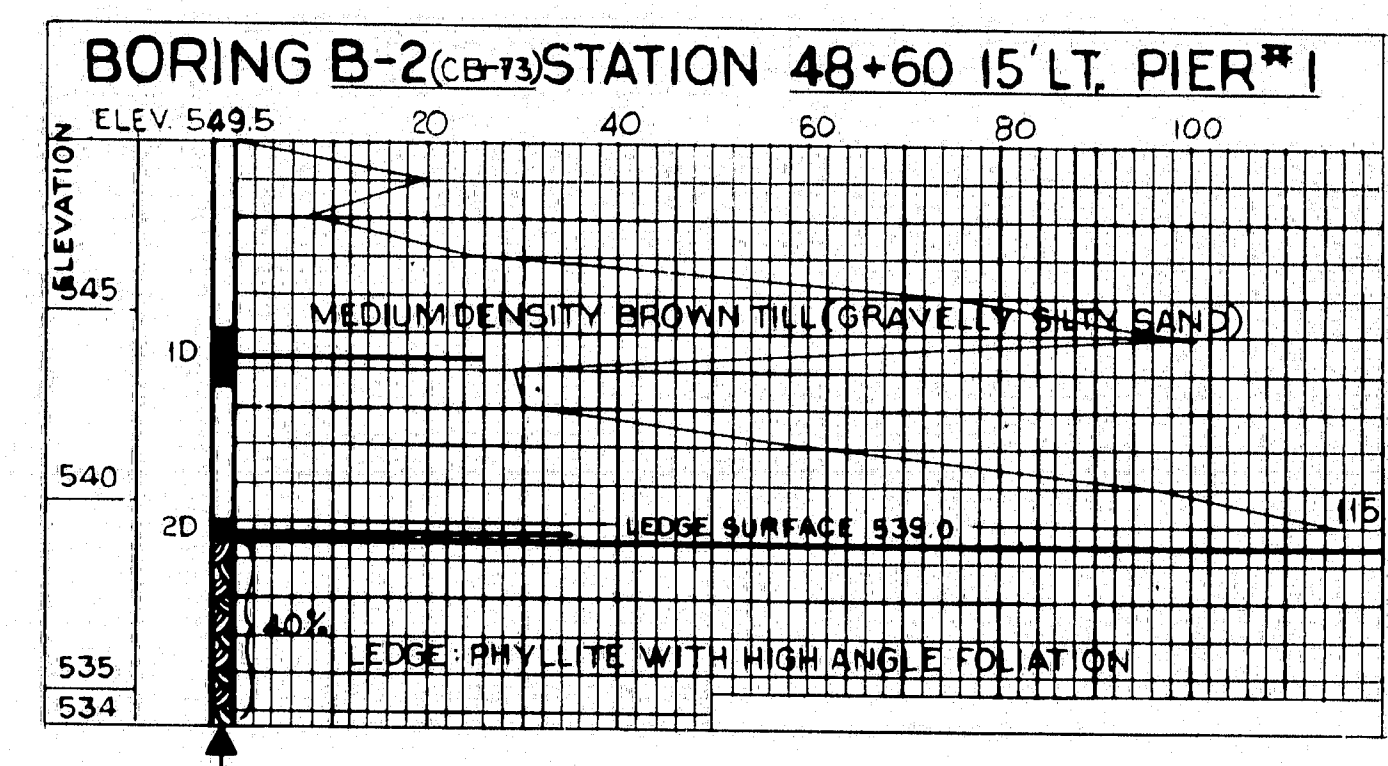
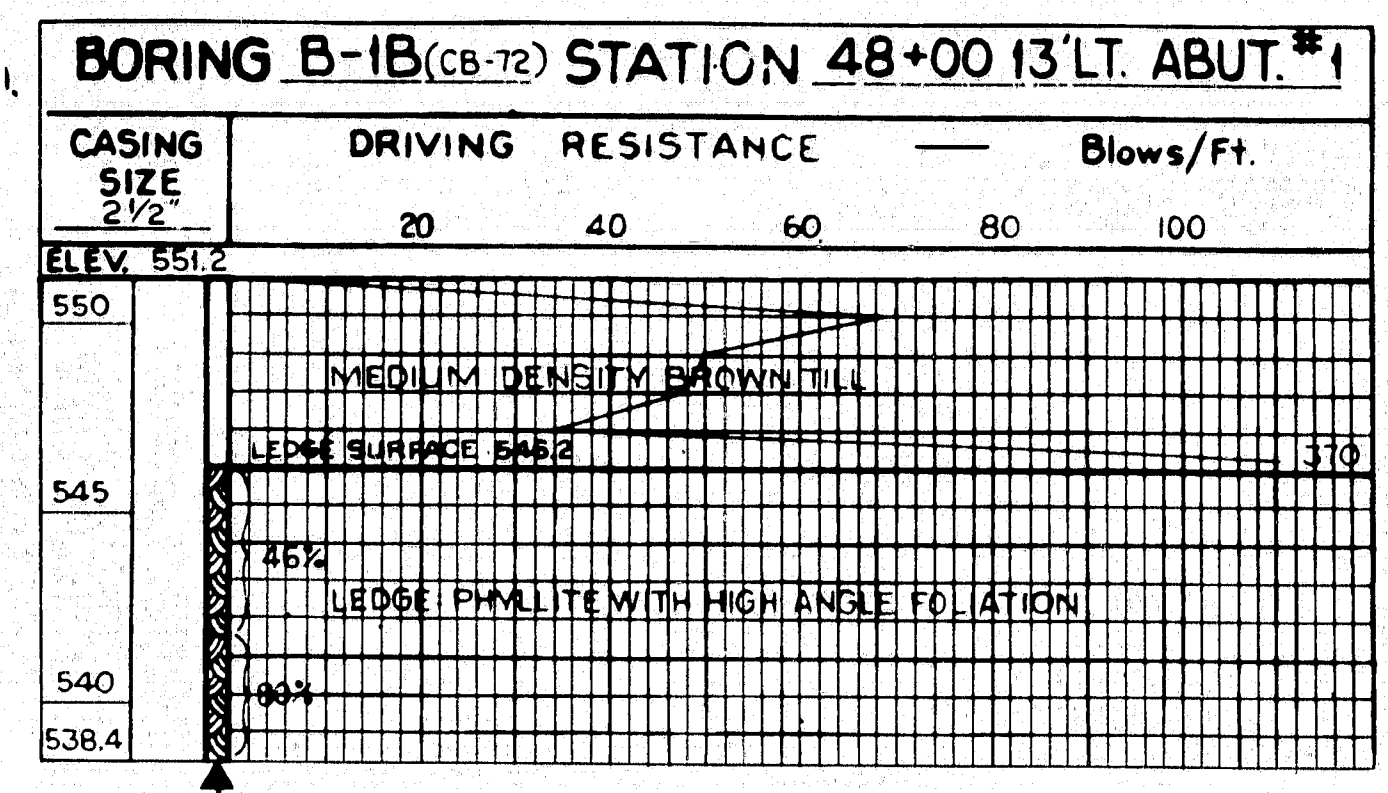
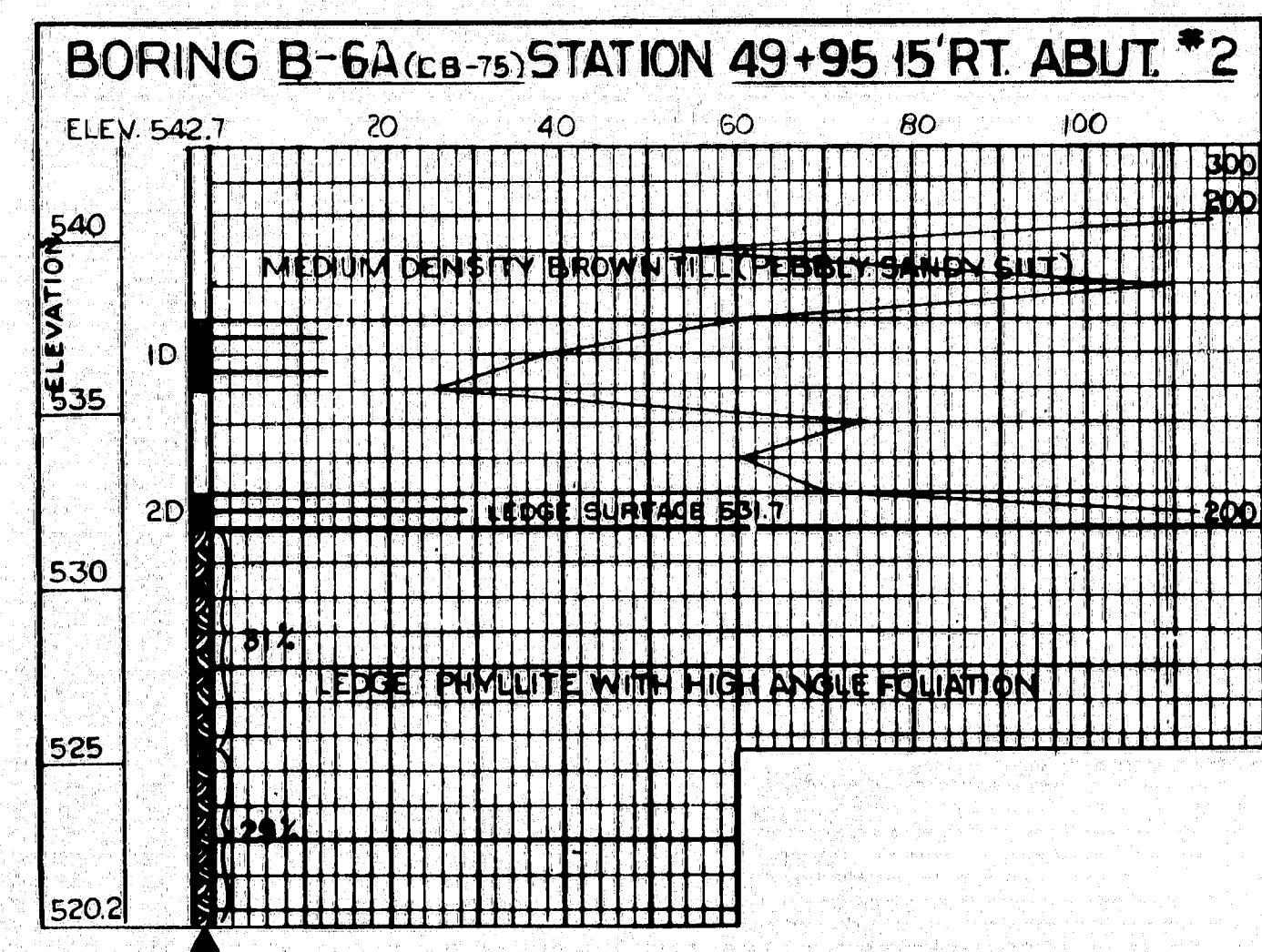
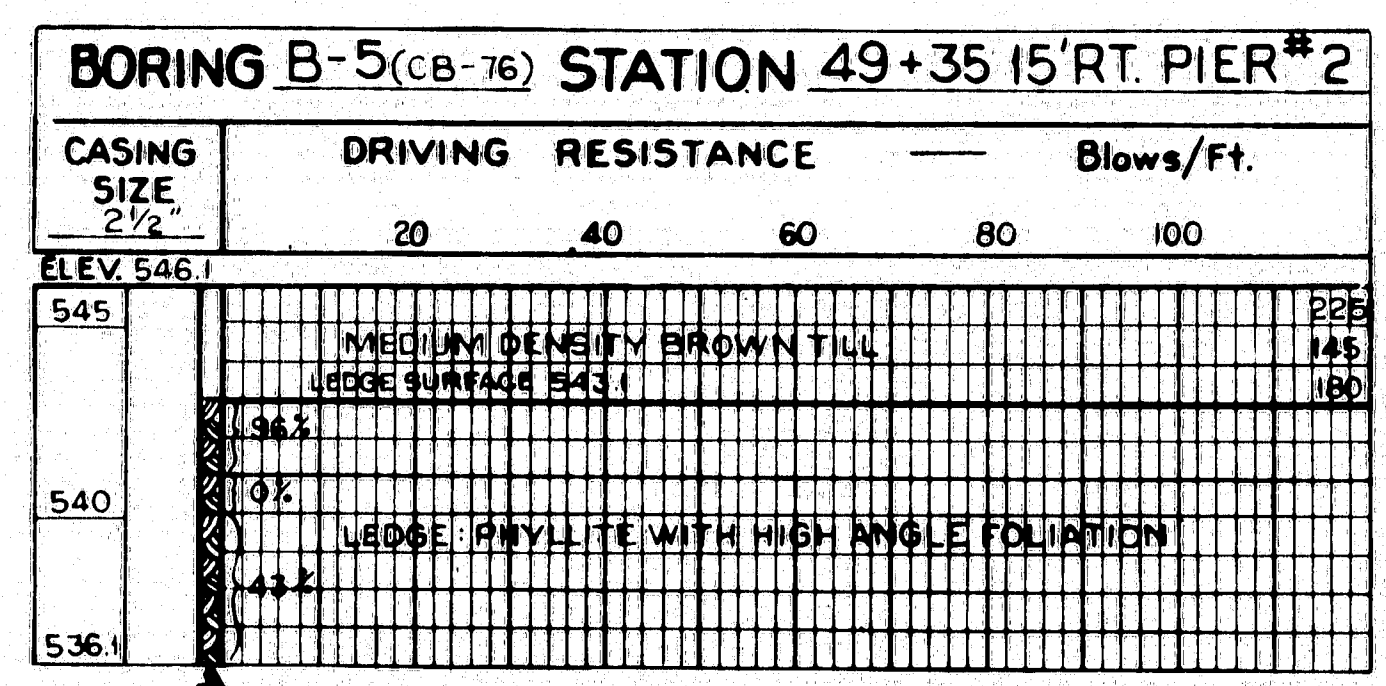
2



B.P.R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE		14	22



LEGEND
○ ROD SOUNDING
● WASH BORING

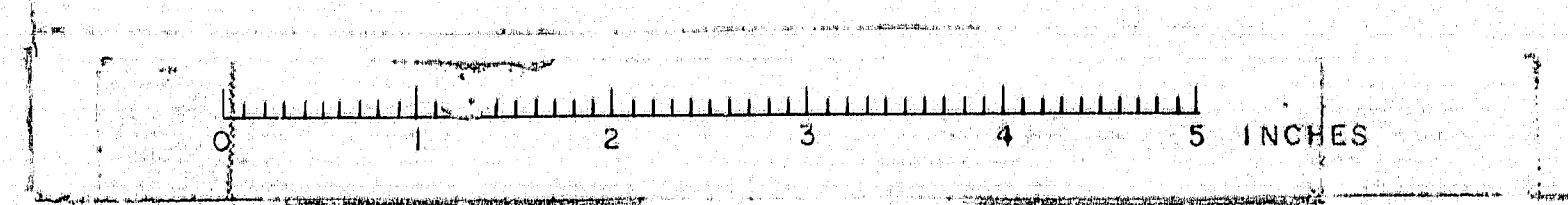


BORING NOTES

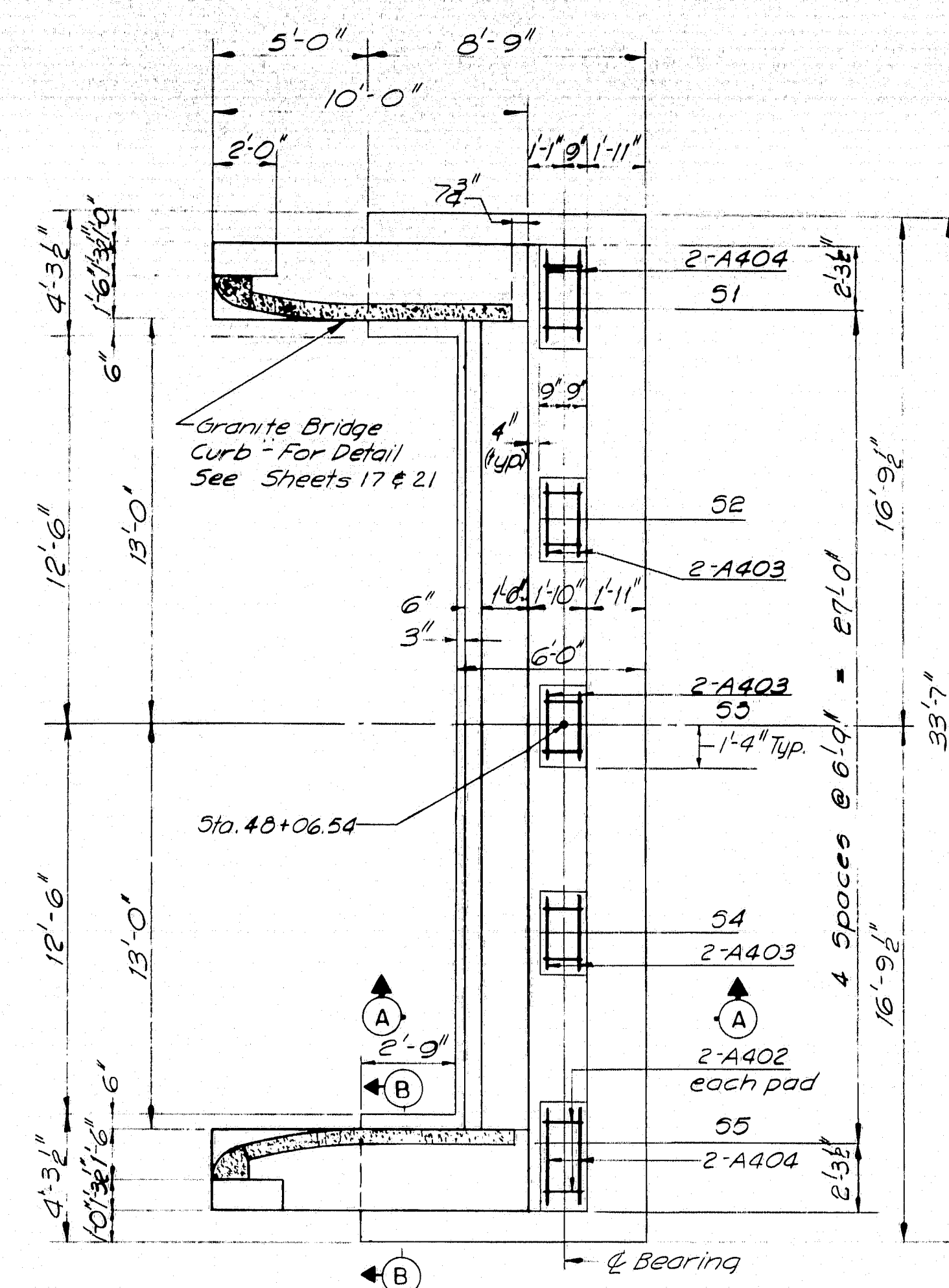
- All samples and vane are made ahead of casing
 - Water elevation
 - Number of blows required to drive extra heavy casing one foot with 400 ft. lbs. of energy per blow
 - Location of sample or sample attempt
 - Number and type of dry sample
 - ID 5 1/4" Sampler #1290's
 - IC 2" O.D. 16 ga. seamless tubing
 - IU 3 1/2" O.D. 16 ga. seamless tubing
 - IW Wash sample and number
 - MD Unsuccessful sample attempt and type of sampler
 - Number of blows required to drive spoon or tubing one foot with 350 ft. lbs. of energy per blow
 - H Sampling spoon on seamless tubing driven by static weight of drill rods and hammer
 - P Piston sampler
 - Field vane test
 - Bottom of boring (may not be bottom of soil strata)
 - Refusal of drill rods or casing (may not be ledge)
 - Locations cored by diamond bit and per cent recovery of rock
- SHEAR NOTES**
- Field vane shear strengths
 - X Laboratory vane shear strengths
 - Shear strengths in excess of capacity of equipment
 - O One half unconfined compressive strengths
- WATER CONTENT NOTES**
- Natural water contents, given as per cent of dry weight
 - Plastic and liquid limits
 - Ignition losses are given as per cent of dry weight

DESIGN- TRACE-JON CHECK-PRN	BRIDGE NO. SURVEY- PLOT-
STATE HIGHWAY COMMISSION BRIDGE DIVISION	
FRENCH ROAD BRIDGE	
OVER	
INTERSTATE 95	
IN THE TOWN OF	
LUDLOW	
AROOSTOOK COUNTY	
FOUNDATION SURVEY	
SHEET 15 OF 22 AUGUSTA, MAINE OCTOBER 1964	

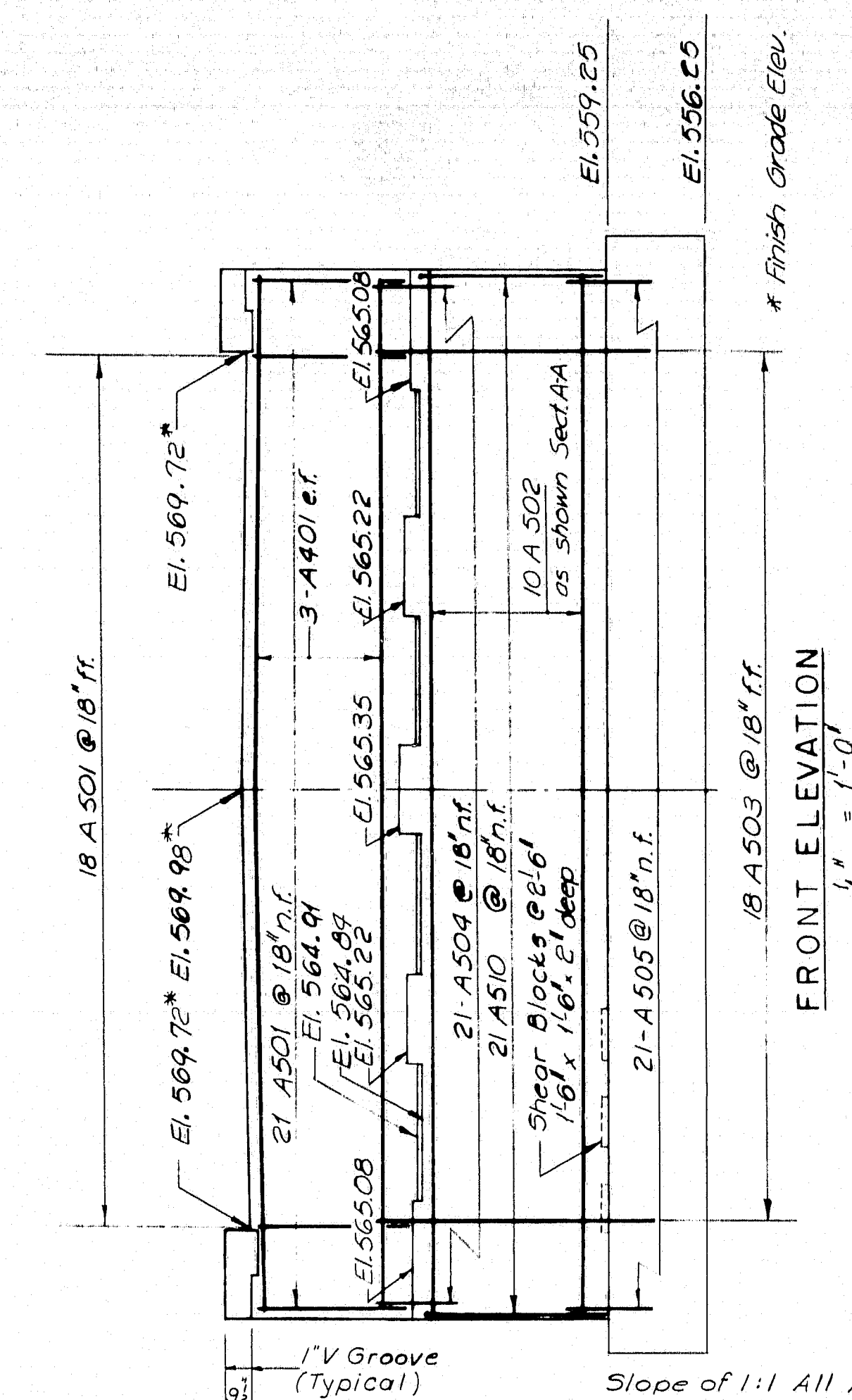
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
NEW YORK BOSTON KANSAS CITY



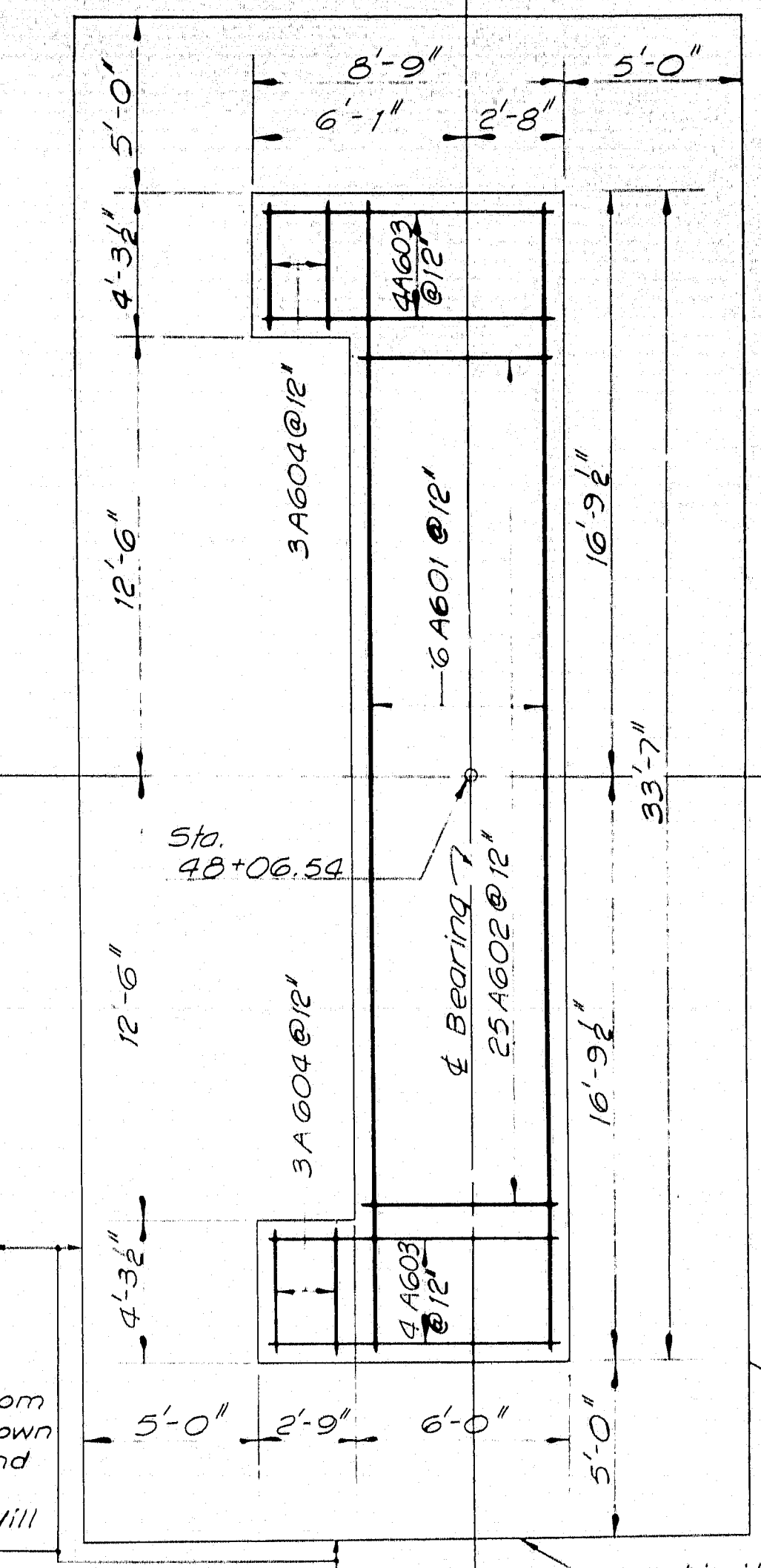
REAR ELEVATION
4' - 1'-0"



PLAN
 $I'' = 1'-0''$



18 A 503 & 18 1.1.
FRONT ELEVATION
 $1/4" = 1'-0"$



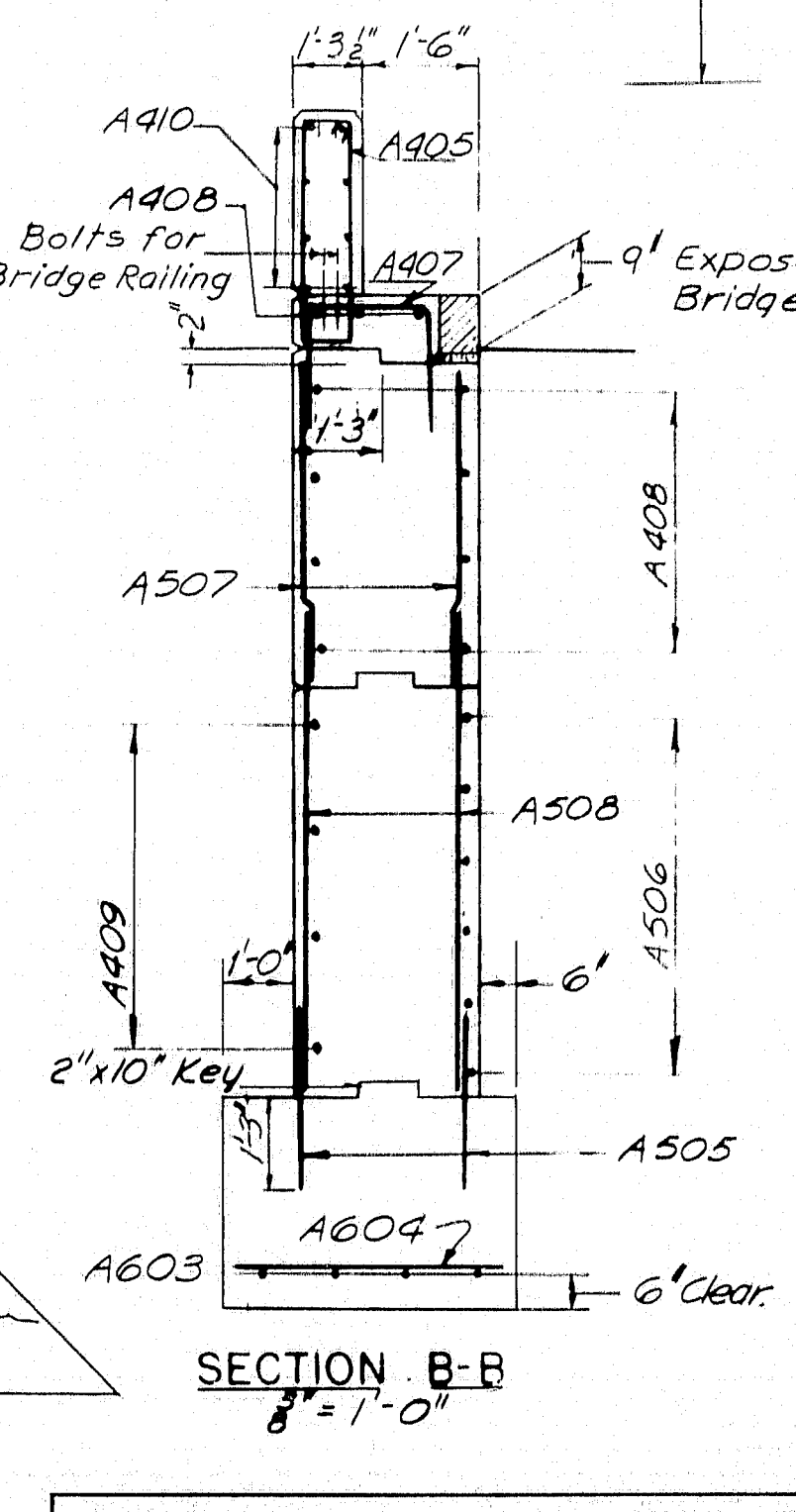
FOOTING PLAN
1" = 1'0"

-
- El. 579.10 About No.1
 El. 569.82 About No.2
 10'-0"
 2'-0" 6'-6"
 8'-4"
 3-A408
 Bridge Railing
 3-A408 Spaced as shown in Section B-B
 11-A407 @ 12"
 4-A408 e.f.
 11-A507 @ 12" n.f.
 9-A507 @ 12" f.f.
 11-A508 @ 12" n.f.
 9-A508 @ 12" f.f.
 2-A509 n.f.
 8-A506 f.f.
 4-A409 n.f.
 V-Groove (typical)
 Abut. No.1 El. 564.91
 Abut. No.2 El. 561.98
 Abutment No.1 El. 559.85
 Abutment No.2 El. 556.50
 8-A505 @ 12" n.f.
 3-A505 @ 12" f.f.

ELEVATION TYPICAL WING
4" - 1'-0"

[illegible]

SECTION B-B
3'-1'-0"



SHEET 16 OF 22 AUGUSTA, MAINE OCTOBER 1964

REFERENCE

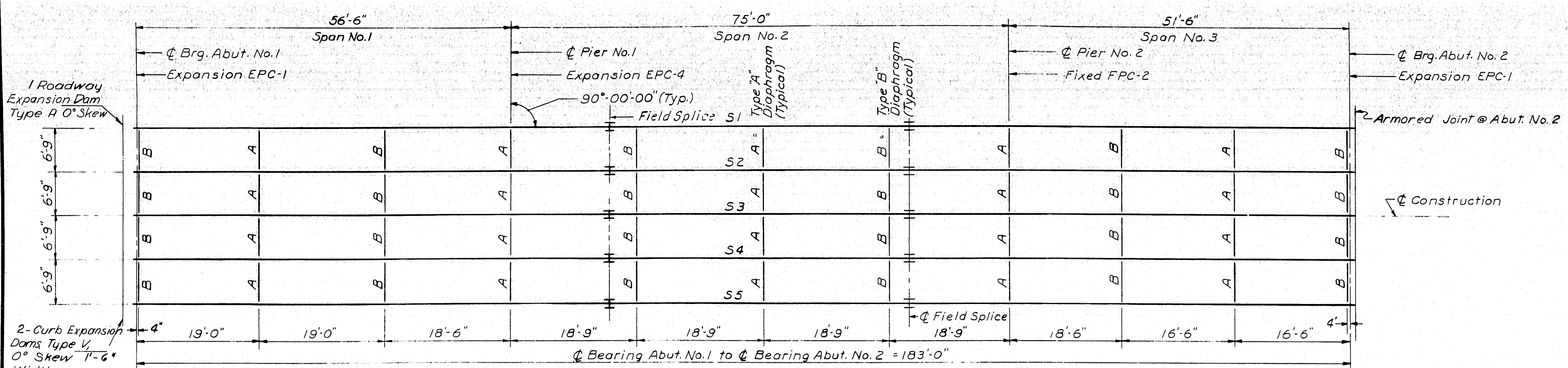
Splice - See Standard Details BD103-64
Diaphragms - See Standard Details BD104-64
Pedestals - See Standard Details BD101-64
Expansion Pam - See Standard Details BD105-64
Armored Joint - See Standard Details BD104-64

SPECIFICATIONS

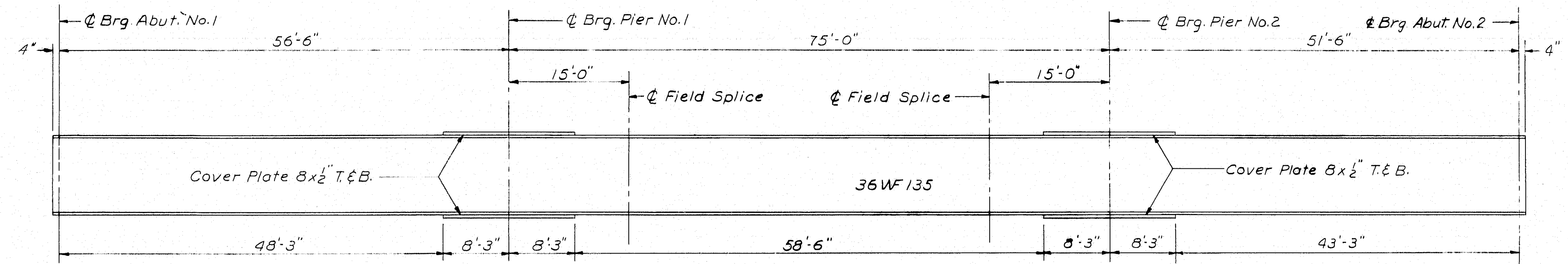
Fabrication and Erection: State of Maine Standard Specifications, Highways and Bridges, Revision of Jan. 1936 and Supplemental Specifications of Feb., 1960 and 1961; and Detail: A. S. T. M. Standard Specifications of 1961, and Interim Specifications 1961 and 1962, 1963, 1964.
Materials: Except as otherwise noted on the standard details, all materials shall conform to A. S. T. M. designation A-36.

PEDESTALS

10 EPC1 Required
5 EPC4 Required
5 FPC2 Required

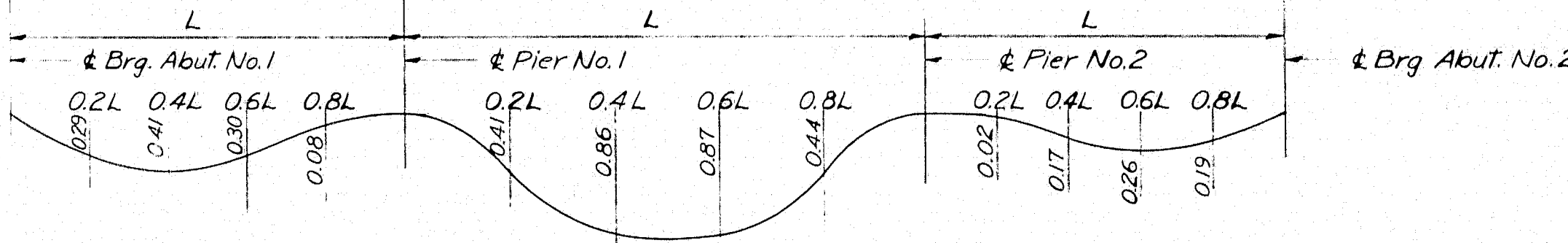


ERECTION DIAGRAM

 $1'' = 10'$ 

TYPICAL STRINGER ELEVATION

All Dimensions Are Horizontal



DEAD - LOAD DEFLECTION DIAGRAM

ALL DEFLECTIONS IN INCHES
No shop camber required.
Natural mill camber to be placed up ^{Weld}

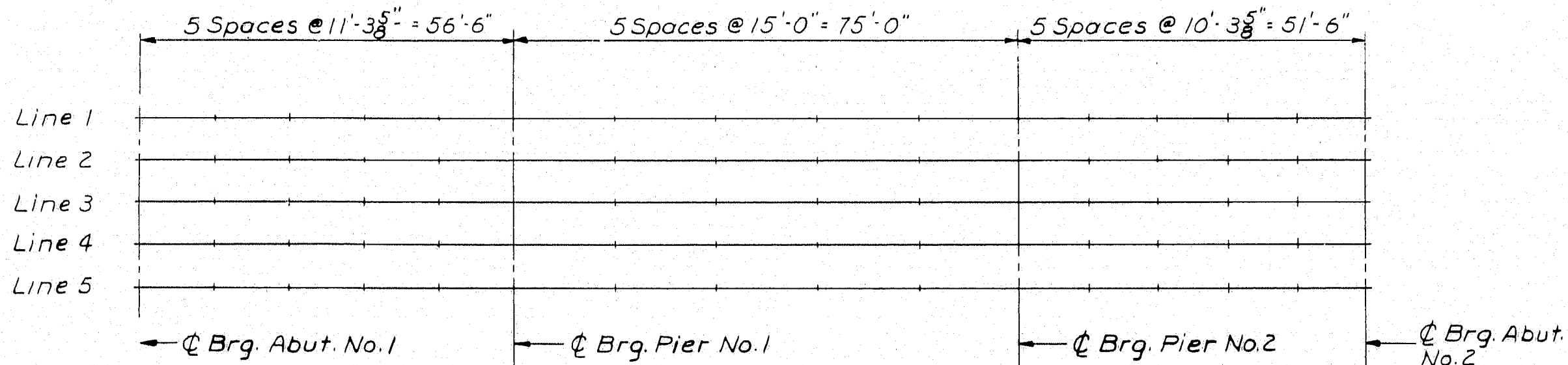
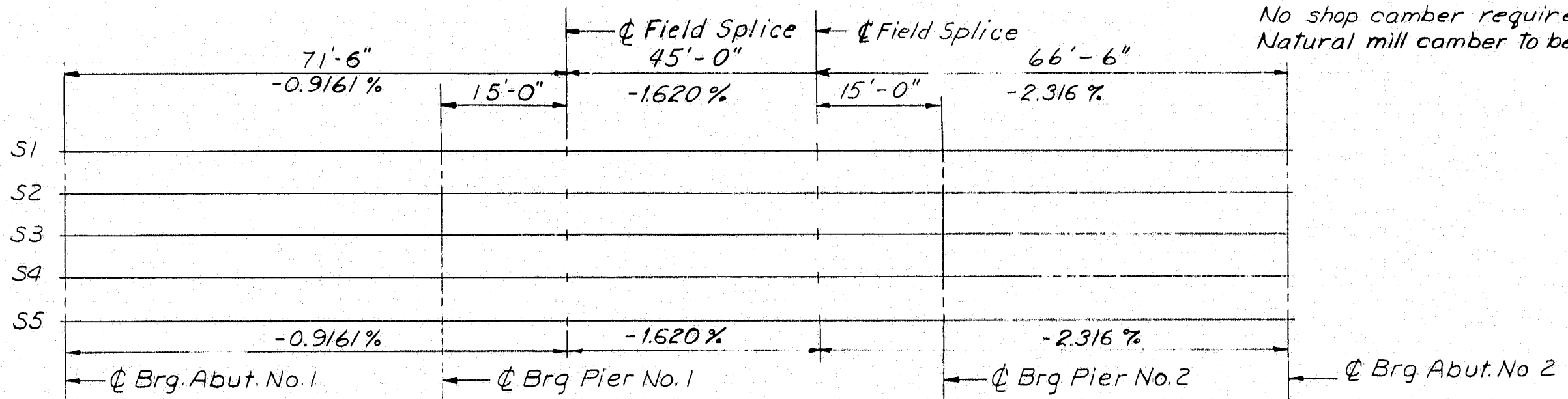
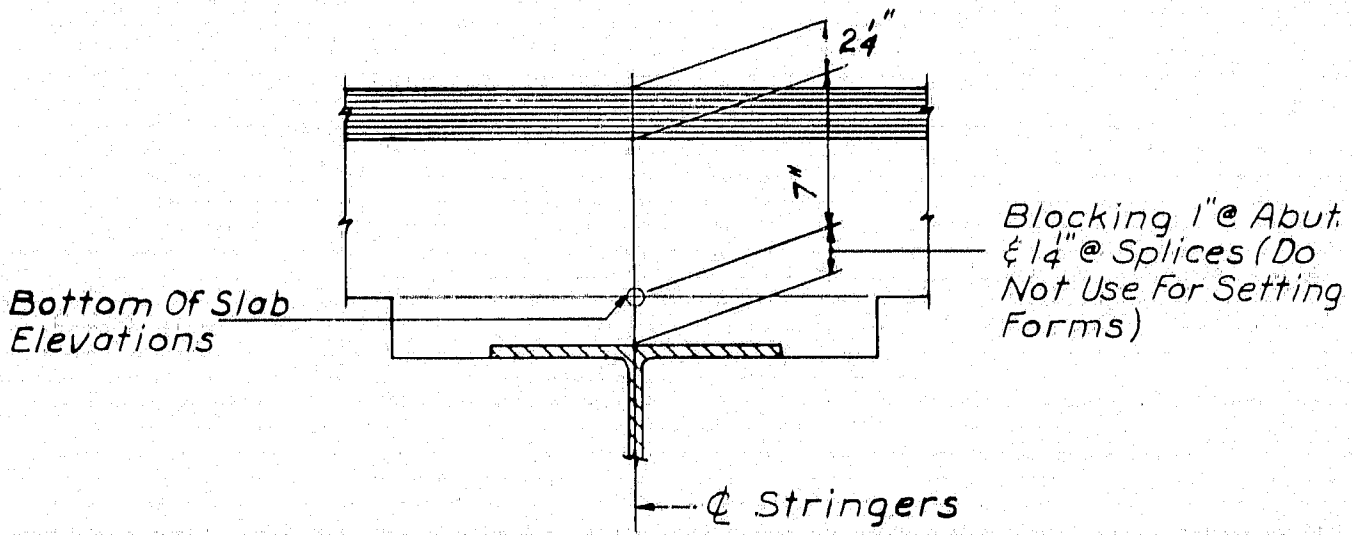


DIAGRAM OF BLOCKING POINTS



BEAM GRADES

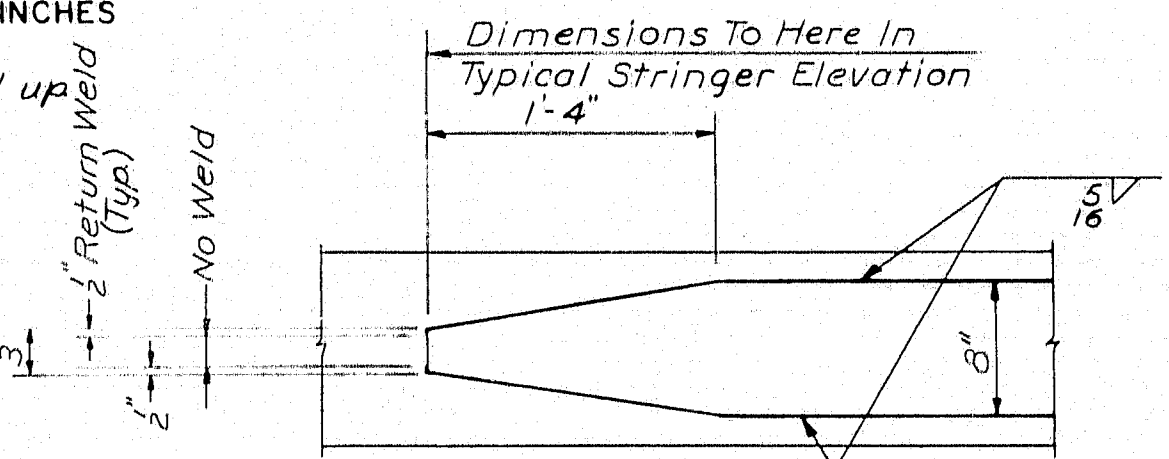


BLOCKING DETAIL

No Scale

NOTE

to compensate for dead load deflections as well as possible irregularities in beams, set the bottom of slab elevations at the points indicated before any of the slab formwork is started.



COVER PLATE DETAIL

$$I'' = I' - C$$

BOTTOM OF SLAB ELEVATIONS AT BLOCKING POINTS																
	¢ Brg. Abut. No. 1	SPAN NO. 1				¢ Brg. Pier No. 1	SPAN NO. 2				¢ Brg. Pier No. 2	SPAN NO. 3				¢ Brg. Abut. No. 2
		11'-3 $\frac{5}{8}$ "	22'-7 $\frac{1}{4}$ "	33'-10 $\frac{3}{4}$ "	45'-2 $\frac{3}{8}$ "		15'-0"	30'-0"	45'-0"	60'-0"		10'-3 $\frac{3}{8}$ "	20'-7 $\frac{1}{4}$ "	30'-10 $\frac{3}{4}$ "	41'-2 $\frac{3}{8}$ "	
Line 1	568.94	568.90	568.83	568.72	568.59	568.46	568.31	568.13	567.88	567.58	567.24	567.02	566.80	566.57	566.30	566.02
Line 2	569.07	569.03	568.96	568.86	568.73	568.60	568.44	568.26	568.02	567.71	567.38	567.16	566.94	566.70	566.44	566.15
Line 3	569.21	569.17	569.10	568.99	568.86	568.73	568.58	568.40	568.15	567.85	567.51	567.29	567.07	566.84	566.57	566.29
Line 4	569.07	569.03	568.96	568.86	568.73	568.60	568.44	568.26	568.02	567.71	567.38	567.16	566.94	566.70	566.44	566.15
Line 5	568.94	568.90	568.83	568.72	568.59	568.46	568.31	568.13	567.88	567.58	567.24	567.02	566.80	566.57	566.30	566.02

DESIGN - G.H.	DETAIL R.D.F.	BRIDGE NO.
TRACE -		SURVEY -
CHECK - <u>PRN</u>		PLOT -

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

FRENCH ROAD

OVER

INTERSTATE 95

IN THE TOWN OF

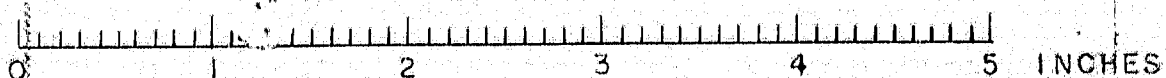
LUDLOW

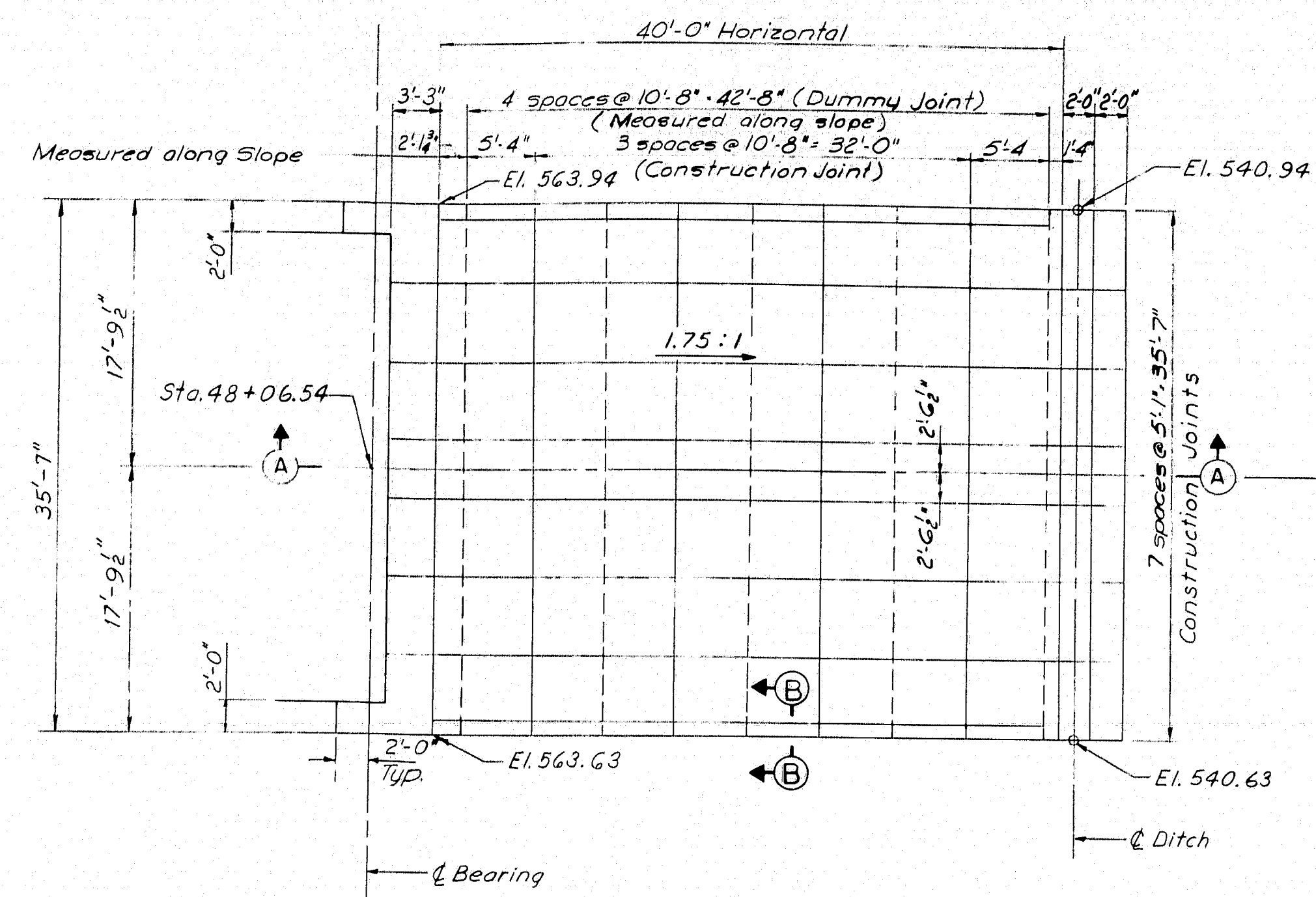
AROOSTOOK COUNTY

STRUCTURAL STEEL & BLOCKING

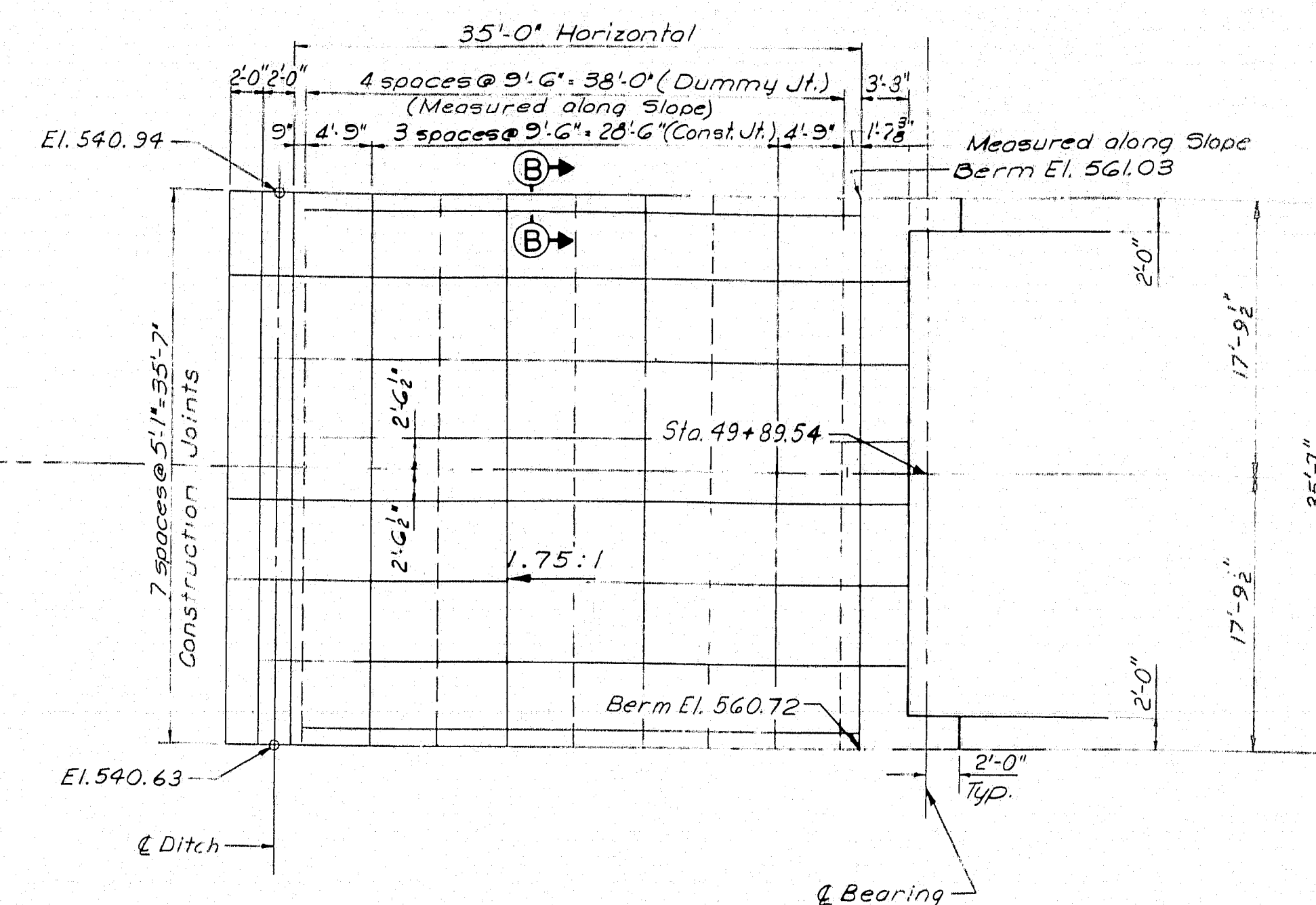
SHEET 19 OF 22 AUGUSTA, MAINE OCTOBER 1964

95-93 LUDLOW (21

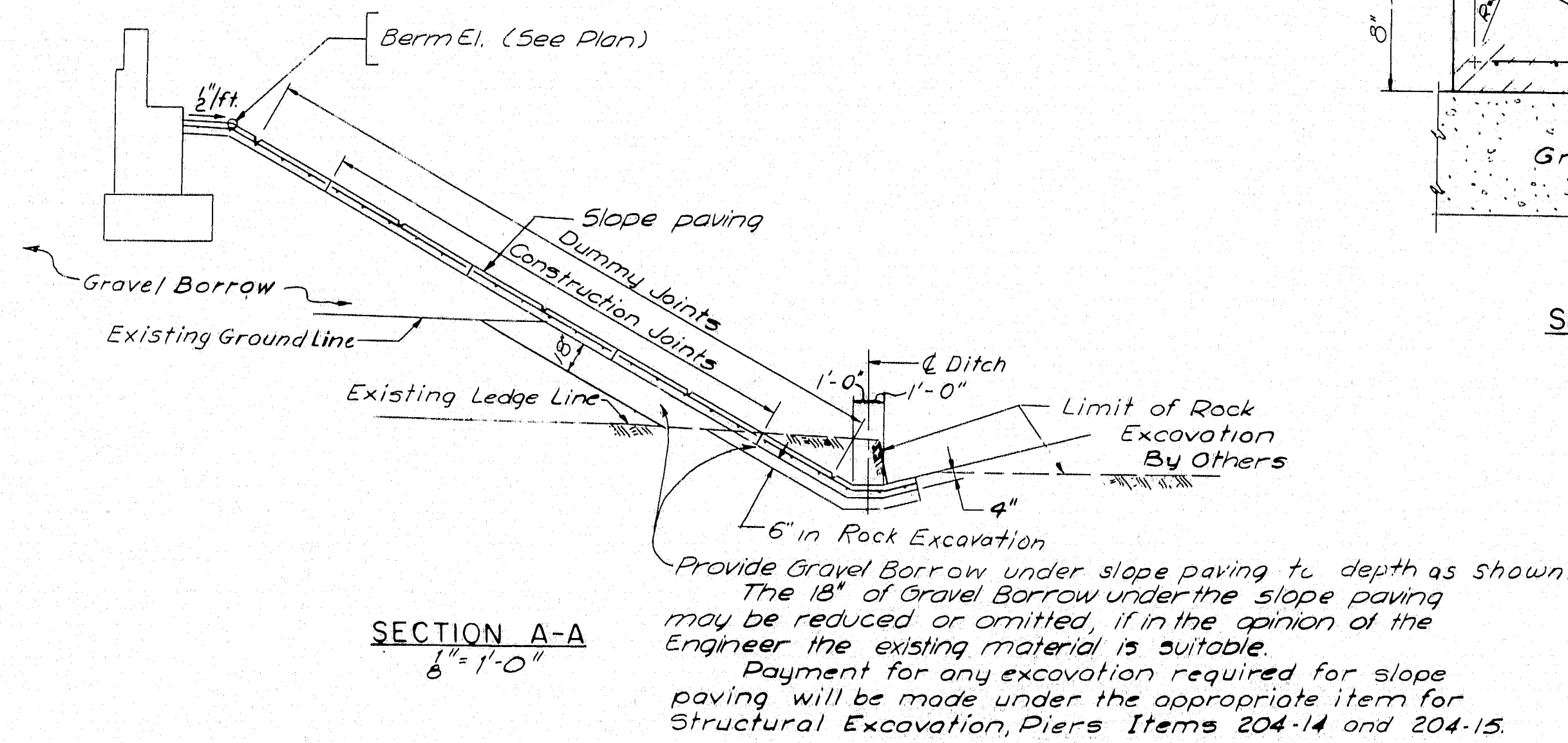




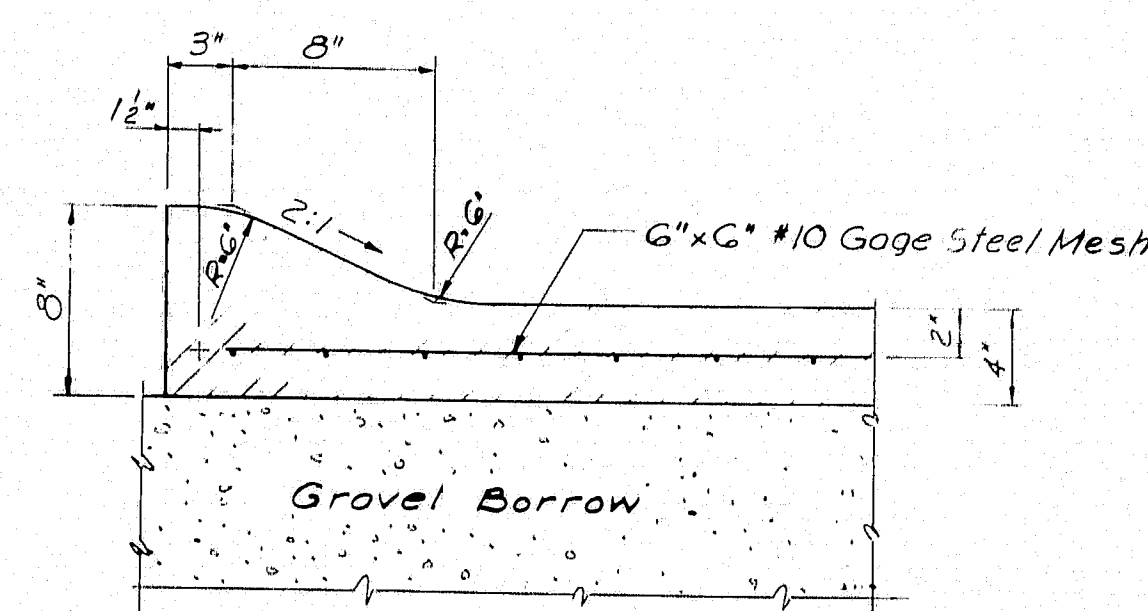
PLAN - ABUTMENT #1
1" = 1'-0"



PLAN - ABUTMENT #2
1" = 1'-0"



SECTION A-A
1" = 1'-0"



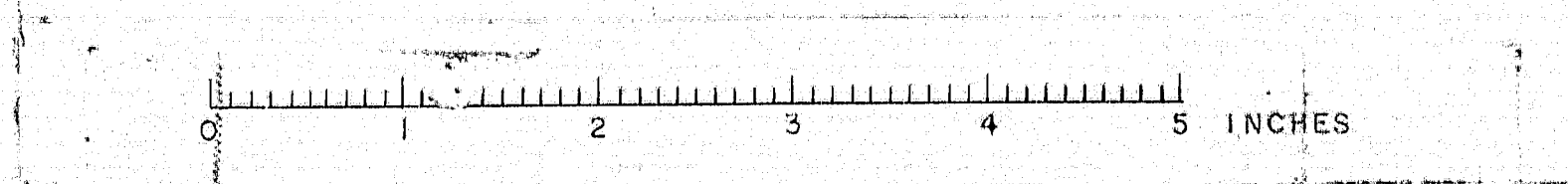
SECTION B-B
1 1/2" = 1'-0"

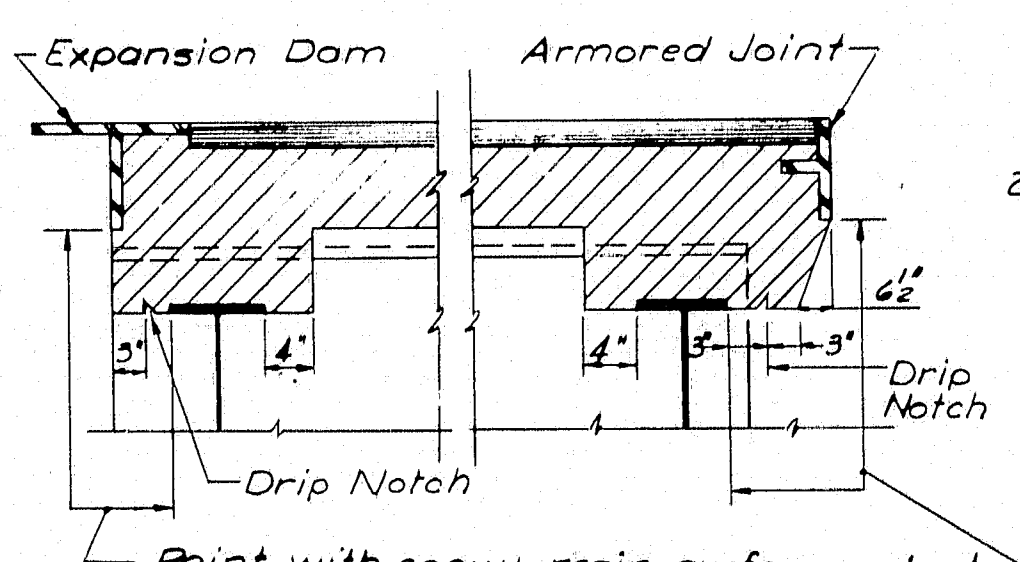
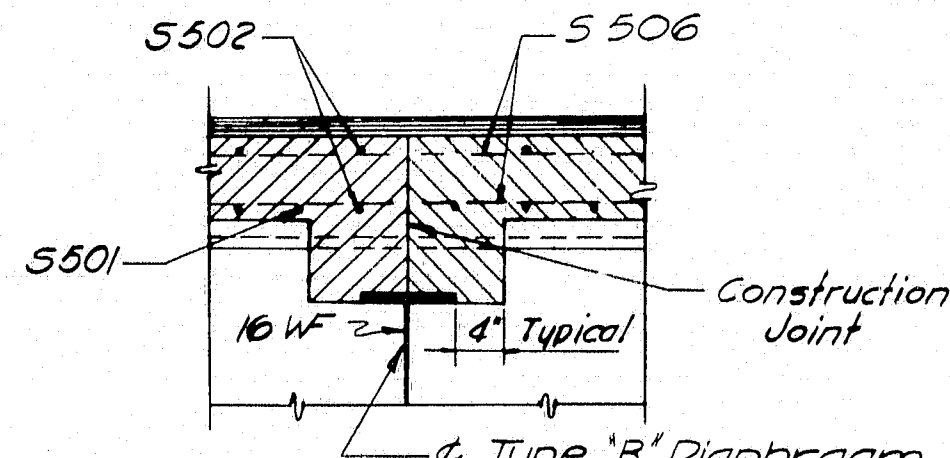
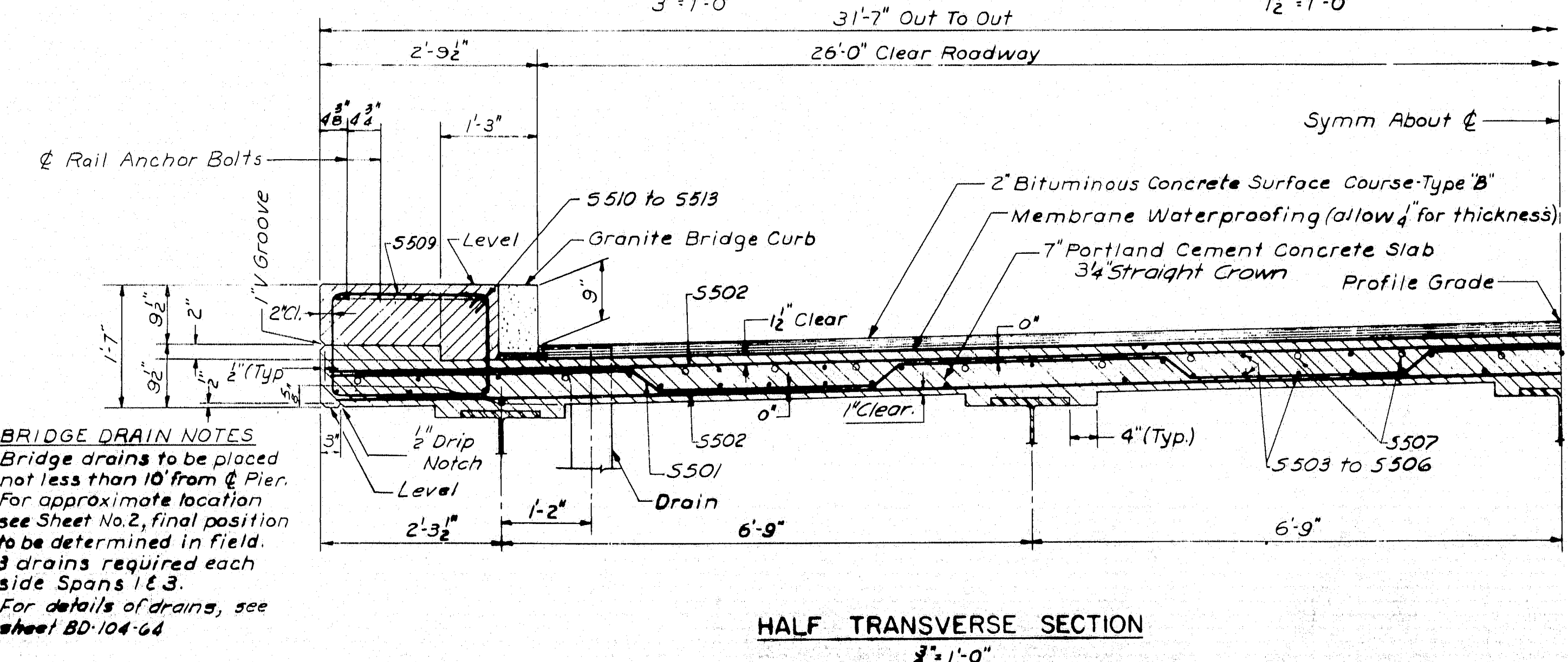
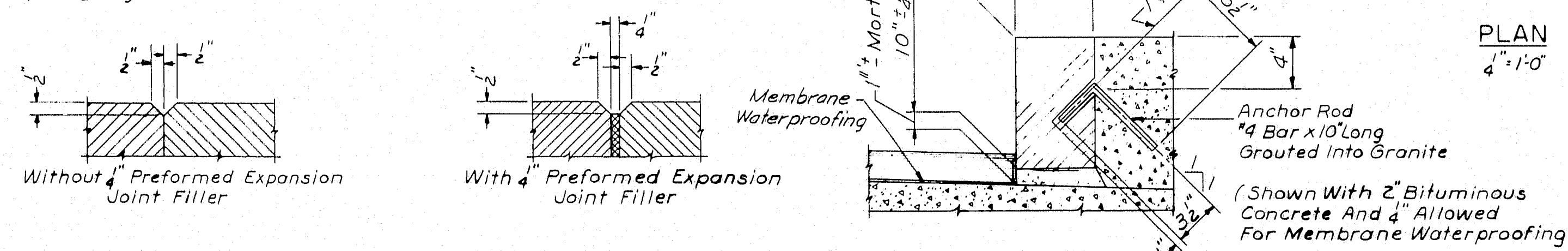
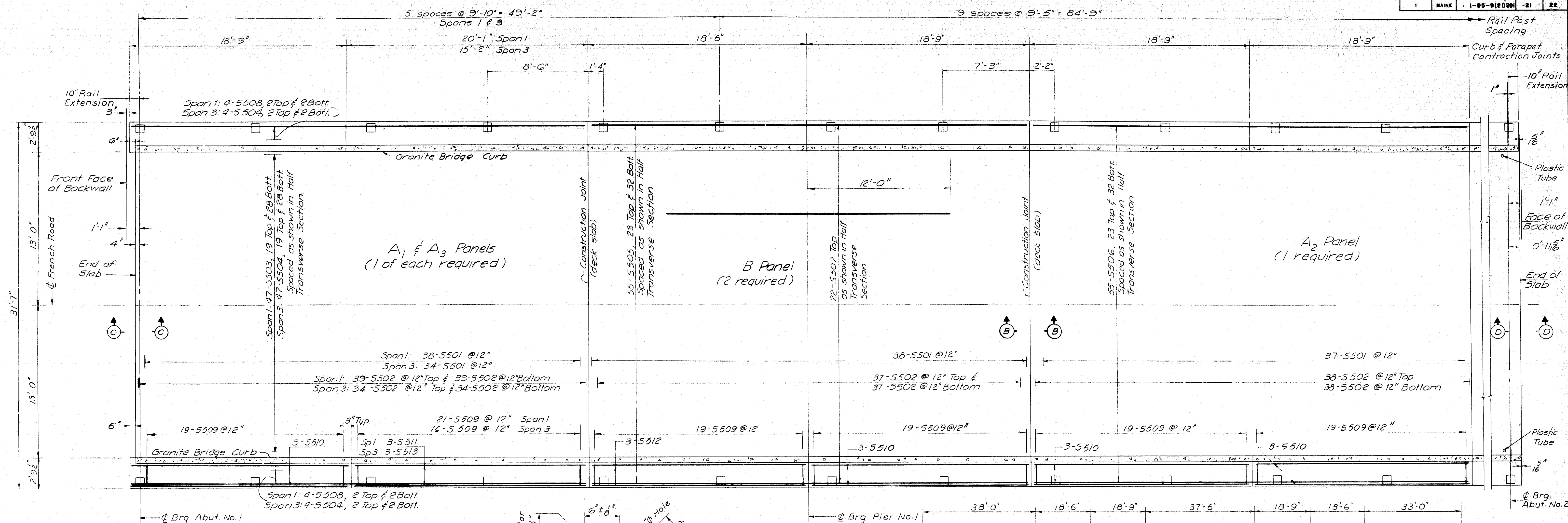
NOTE:
1. Slope paving shall conform to section 808 of the Supplemental Specifications dated February 1960 and as modified in May 1964.
2. Break bond of construction joints with a coat of Asphalt Paint.
3. Reinforce with #10 gage 6"x6" steel mesh, not to pass through construction jts.
4. Dummy joints shall be made with a sidewalk edging tool to a depth of 4".

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
NEW YORK BOSTON KANSAS CITY

DESIGN - L.R.
TRACE -
CHECK - P.R.N.
BRIDGE NO. SURVEY PLOT
STATE HIGHWAY COMMISSION
BRIDGE DIVISION
FRENCH ROAD
OVER
INTERSTATE 95
IN THE TOWN OF
LUDLOW
ARROOSTOOK COUNTY
SLOPE PAVING
SHEET 20 OF 22 AUGUSTA, MAINE OCTOBER 1964

95-94 LUDLOW (21)





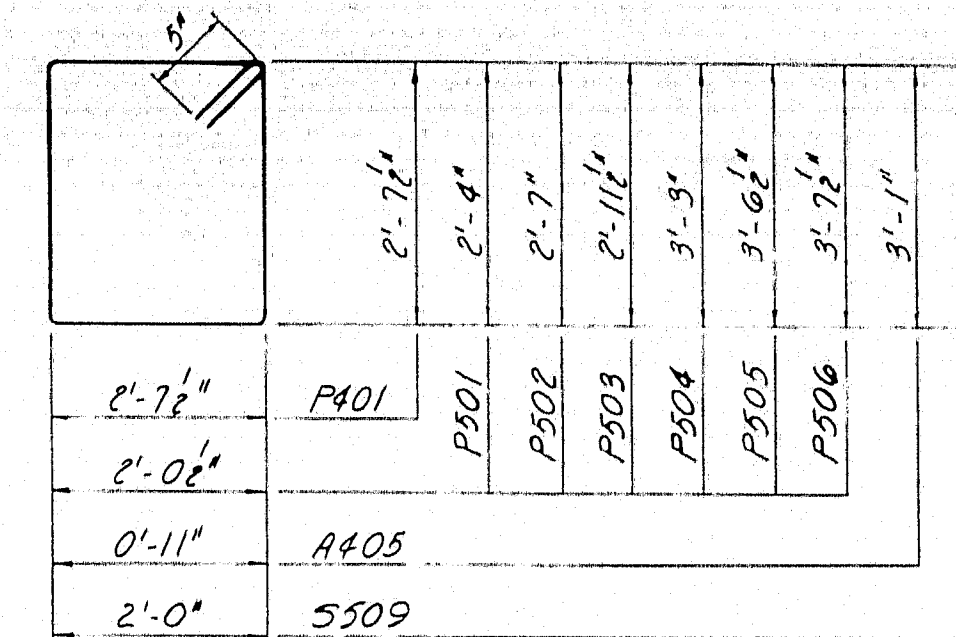
POURING SEQUENCE
1. At joints in curbs and granite bridge curbs over Piers use 4" preformed expansion joint filler. At all other curb joints, break the bond between concrete surfaces with a suitable grade of asphalt paint. Form V-groove on the outside face of curb and slab at each vertical joint. Provide joints in granite bridge curb at curb CJs.
2. At low points in slabs, place a plastic tube 1" Ø through the slab for drainage. Exact location to be determined in the field. Do not cover the tube with waterproofing. This work to be incidental to contract items. Tubes shall extend 6" below bottom of slab. Place tubes to drip clear of bridge seats.
3. For bridge rail, see Standard Details - Sheets BD-107-64 and BD-108-64.

GENERAL SUPERSTRUCTURE NOTES
DESIGN - I.S. DETAIL R.D.E. BRIDGE NO. SURVEY - PLAT.
CHECK - PRN.
STATE HIGHWAY COMMISSION
BRIDGE DIVISION
FRENCH ROAD
OVER
INTERSTATE 95
IN THE TOWN OF
LUDLOW
ARROOSTOOK COUNTY
SUPERSTRUCTURE
SHEET 21 OF 22 AUGUSTA, MAINE OCTOBER 1964

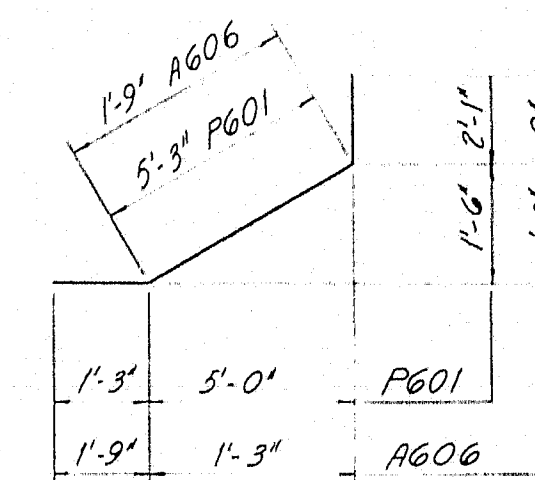
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
NEW YORK BOSTON KANSAS CITY

MARK	SIZE	NUMBER	LENGTH	
ABUTMENTS				
STRAIGHT BARS				Total is for Two Abutments
A401	4	12	31'-3"	Backwall
A408	4	14	9'-8"	Wingwall Stem
A409	4	16	11'-6"	Wingwall Stem
A410	4	32	1'-8"	End Post
A501	5	78	4'-4"	Backwall
A502	5	20	31'-3"	Abutment Stem
A503	5	36	8'-2"	" "
A504	5	42	3'-0"	Dowel-Abutment Stem
A505	5	94	2'-6"	" " & Wingwall Flg.
A506	5	24	11'-6"	Wingwall Stem
A507	5	80	4'-6"	" "
A508	5	80	7'-6"	" "
A509	5	8	5'-8"	Abutment Stem
A601	6	12	53'-1"	" Flg.
A602	6	50	5'-6"	" Flg.
A603	6	16	8'-3"	Wingwall Flg.
A604	6	12	3'-3"	" Flg.
BENT BARS				
STRAIGHT BARS				Total is for Two Abutments
A402	4	20	9'-2"	Bearing Pads
A403	4	12	4'-4"	" "
A404	4	8	5'-0"	" "
A405	4	12	8'-10"	Wingwall Railing End Post
A407	4	44	5'-3"	Wingwall Railing Safety Walk
A510	5	42	8'-7"	Abutment Stem
A606	6	36	3'-6"	Approach Slab Seat
PIERS 1 & 2				
STRAIGHT BARS				Total is for Two Piers Except as Noted
P602	6	4	30'-0"	Pier Cap
P603	6	4	28'-0"	" "
P604	6	28	5'-6"	Pier 1 Flg.
P701	7	40	6'-6"	Pier 2 Flg.
P901	9	24	21'-10"	Columns - Pier 1
P902	9	24	21'-0"	" - Pier 2
P903	9	16	12'-0"	" - Pier 2
P904	9	64	5'-7"	Column Dowels
P1001	10	8	30'-2"	Pier Cap Top
P1101	11	16	12'-0"	" " "
P1003	10	14	20'-0"	" " Bottom
BENT BARS				
STRAIGHT BARS				Total is for two Piers
P401	4	74	11'-4"	Column Ties
P501	5	8	9'-7"	Pier Cap Stirrup
P502	5	8	10'-1"	" " "
P503	5	8	10'-10"	" " "
P504	5	8	11'-5"	" " "
P505	5	8	12'-0"	" " "
P506	5	76	12'-2"	" " "
P601	6	16	8'-7"	Pier Cap

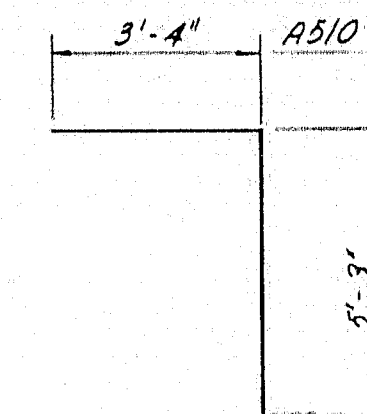
MARK	SIZE	NUMBER	LENGTH	
SUPERSTRUCTURE				
STRAIGHT BARS				
S510	5	36	18'-5"	Safety Walk
S511	5	6	19'-9"	" "
S512	5	12	18'-2"	" "
S513	5	6	14'-10"	" "
S502	5	370	31'-3"	Transverse - Top & Bottom
S503	5	47	38'-0"	Longitudinal - " "
S504	5	55	33'-7"	" " "
S505	5	110	36'-11"	" " "
S506	5	55	37'-2"	" " "
S507	5	44	24'-0"	Longitudinal Top @ Piers
S508	5	8	38'-6"	Longitudinal - Top & Bottom
BENT BARS				
S501	5	185	32'-4"	Truss Rod
S509	5	373	7'-4"	Safety Walk
APPROACH SLAB				
A5601	6	200	14'-6"	Total is for 2 Approach Slabs
A5401	4	44	24'-6"	



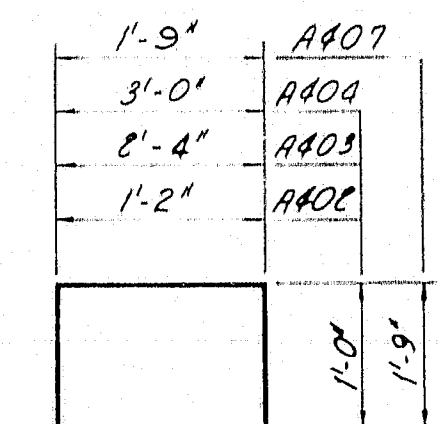
A405, A406, P401, P501 THRU P506, S509



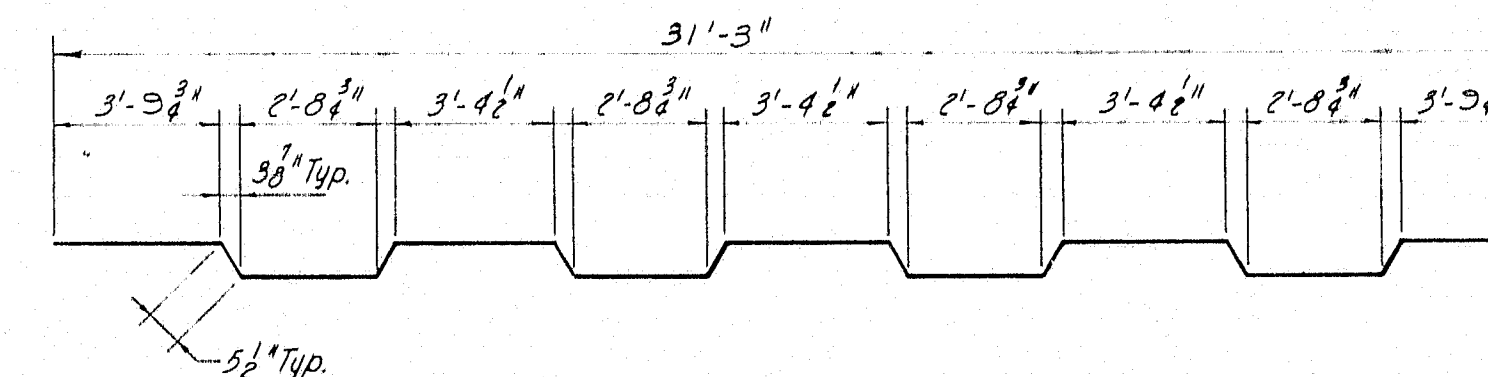
A606, P601



A510



A402, A403, A404, A407



S501

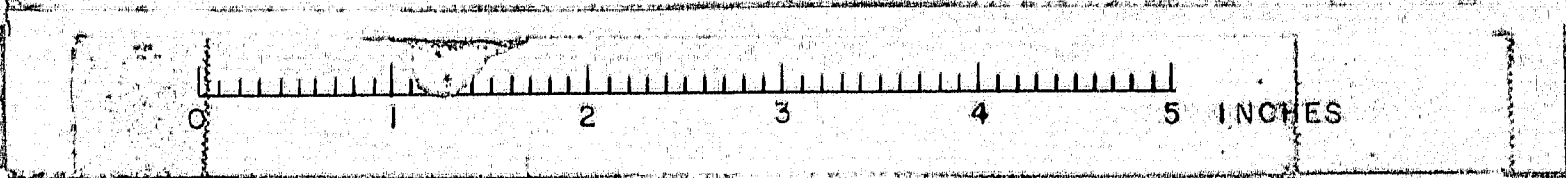
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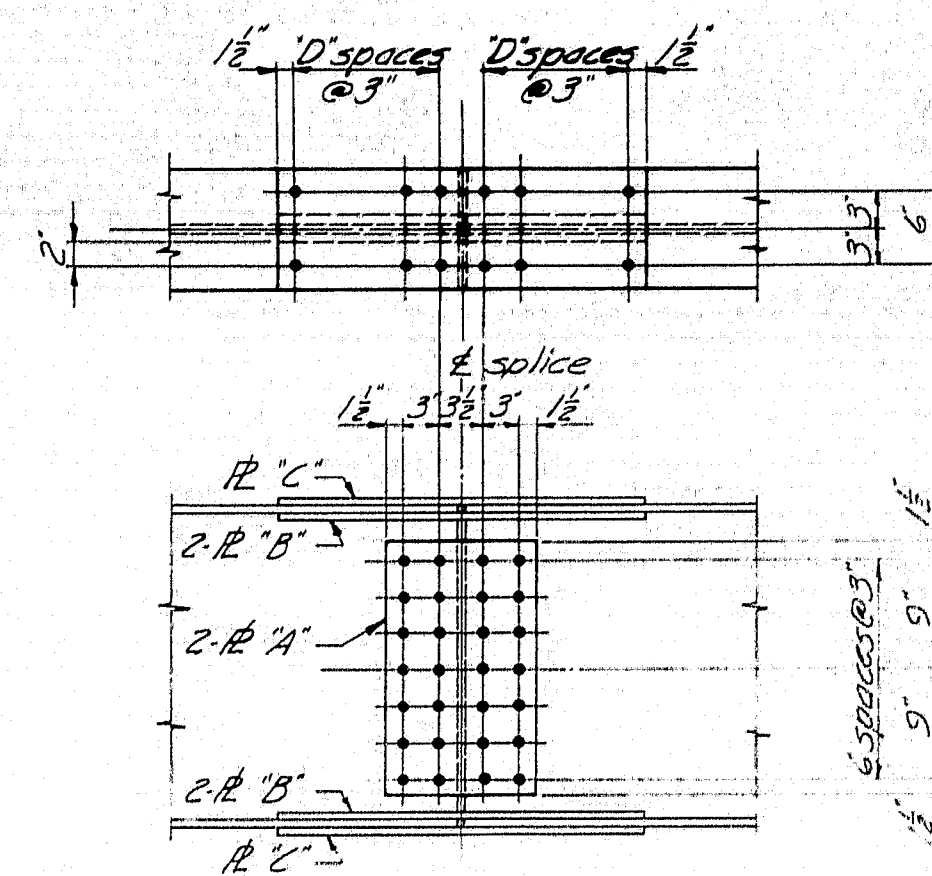
1. All dimensions are to the centerline of bars.
2. All reinforcing bars shall be intermediate grade steel.
3. Reinforcing steel to have 1" minimum cover, unless otherwise shown.

DESIGN - G.H.	DETAIL - JMS	BRIDGE NO.
TRACE -	SURVEY -	
CHECK - P.R.N.	PLOT -	
STATE HIGHWAY COMMISSION BRIDGE DIVISION		
FRENCH ROAD OVER INTERSTATE 95 IN THE TOWN OF LUDLOW AROOSTOOK COUNTY REINFORCING STEEL		
SHEET 22 OF 22 AUGUSTA, MAINE OCTOBER, 1964		

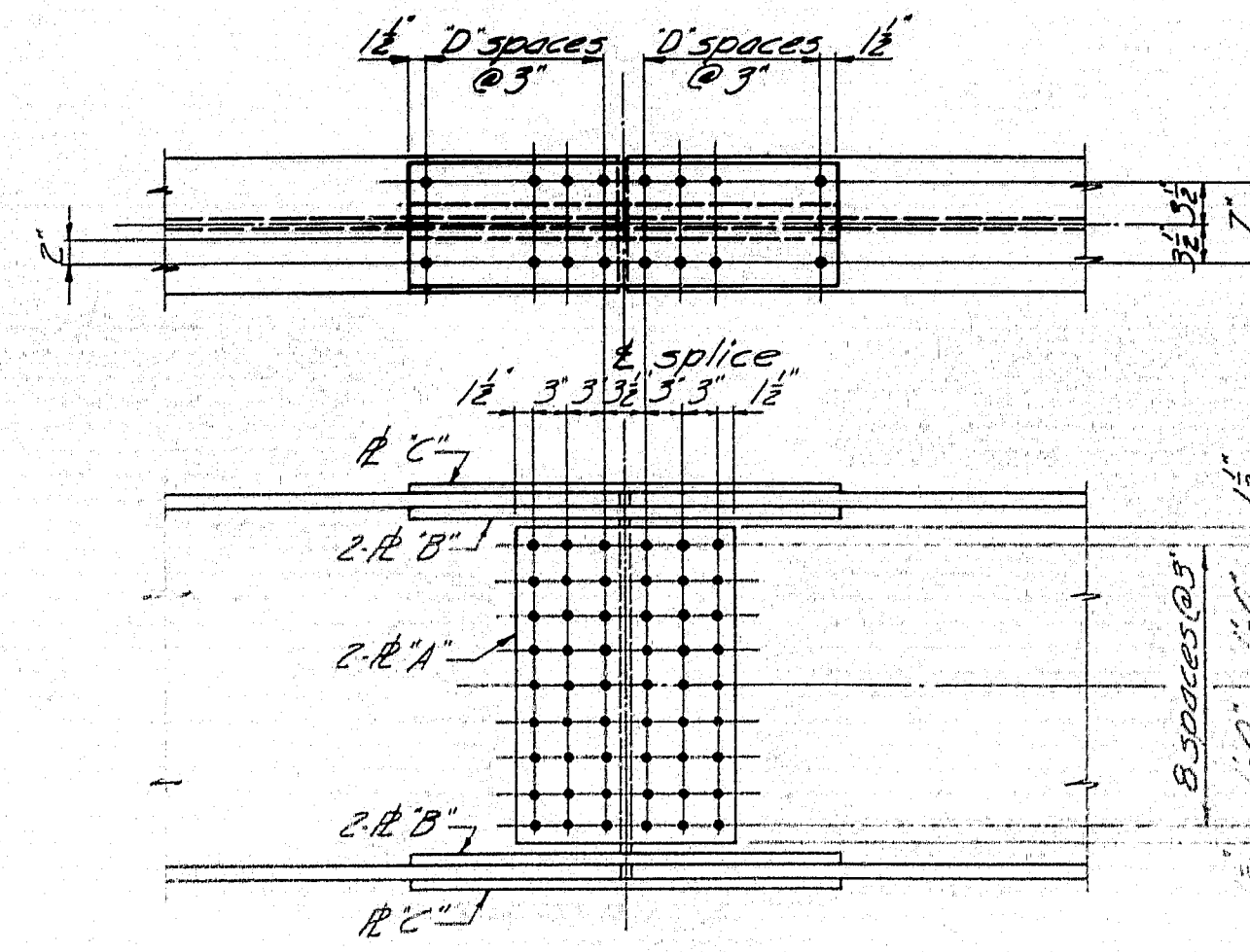
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
NEW YORK BOSTON KANSAS CITY

95-96 LUDLOW (21)

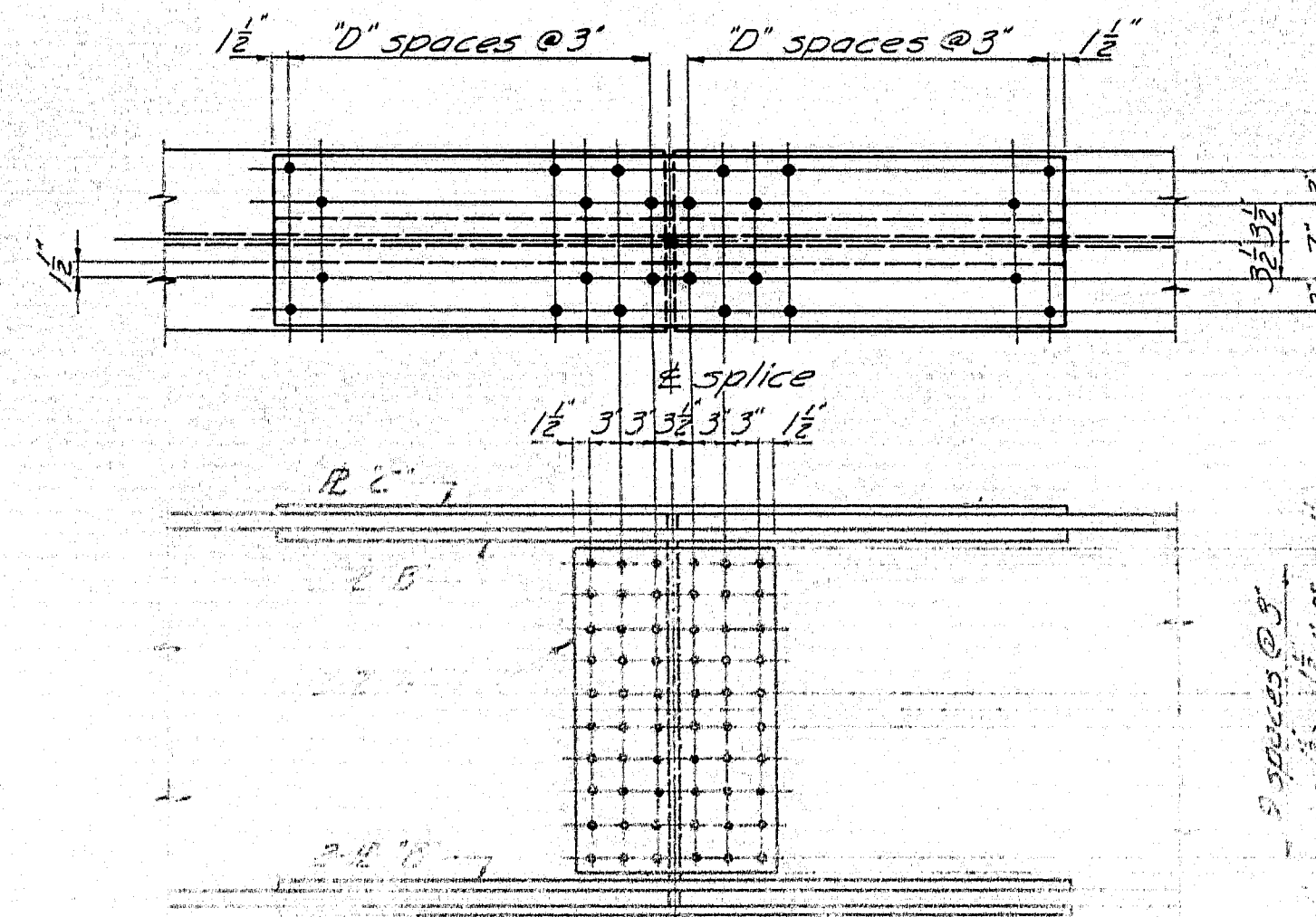




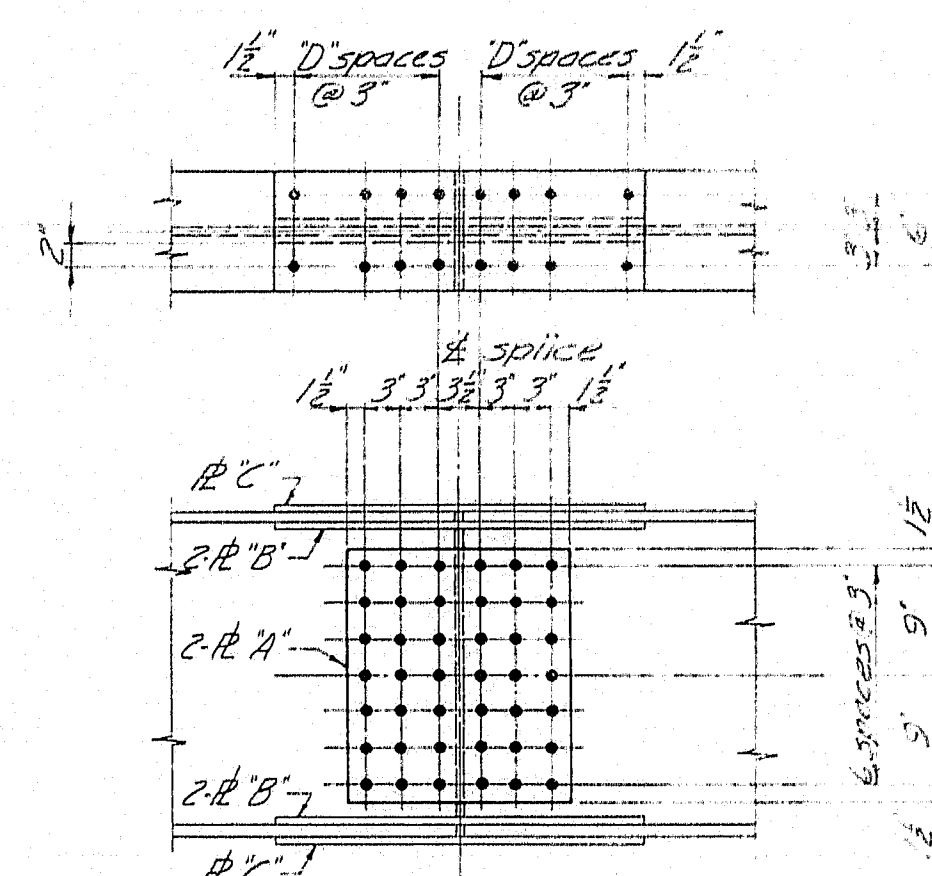
27 WF 84



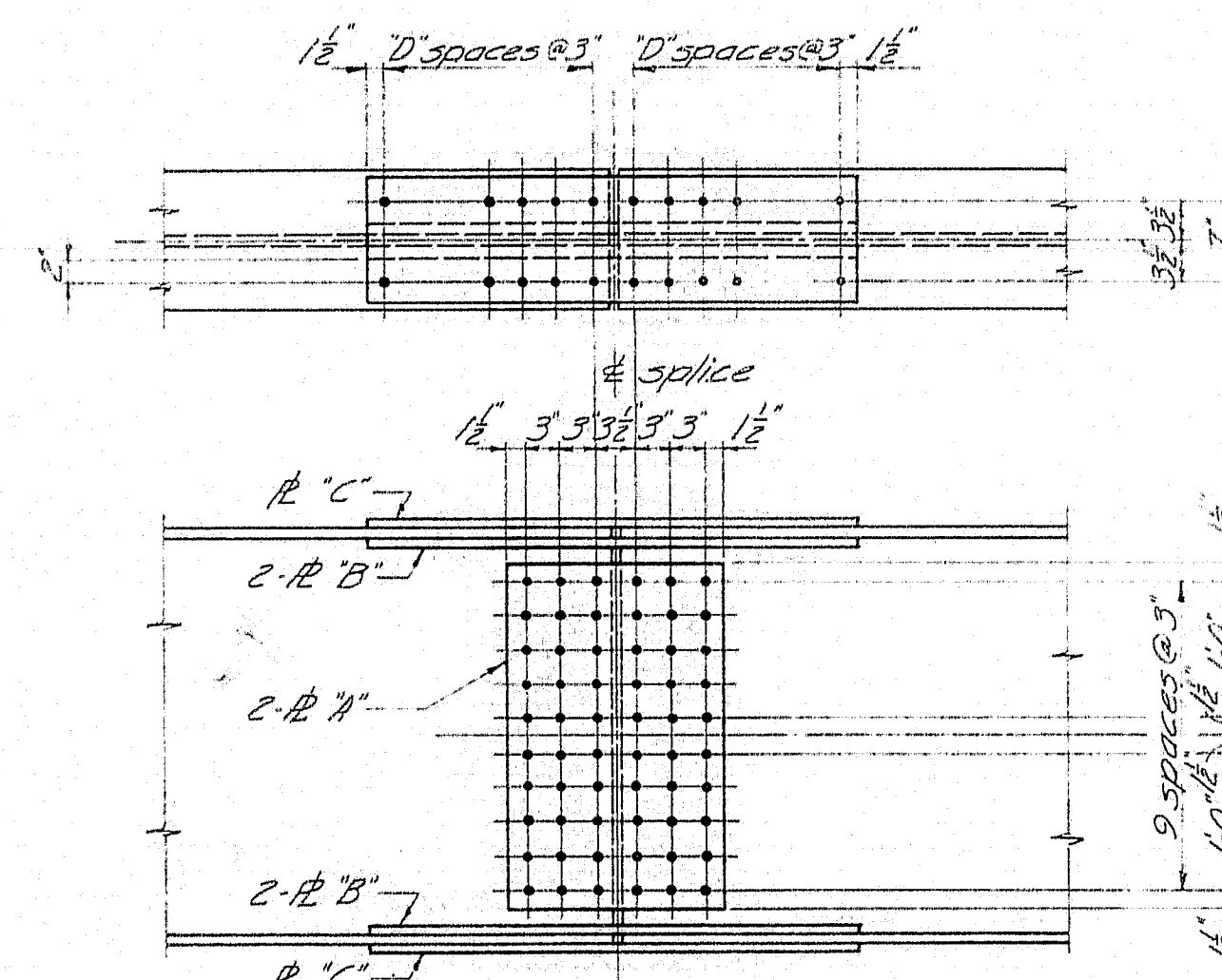
33 WF 118, 130, 141, 152



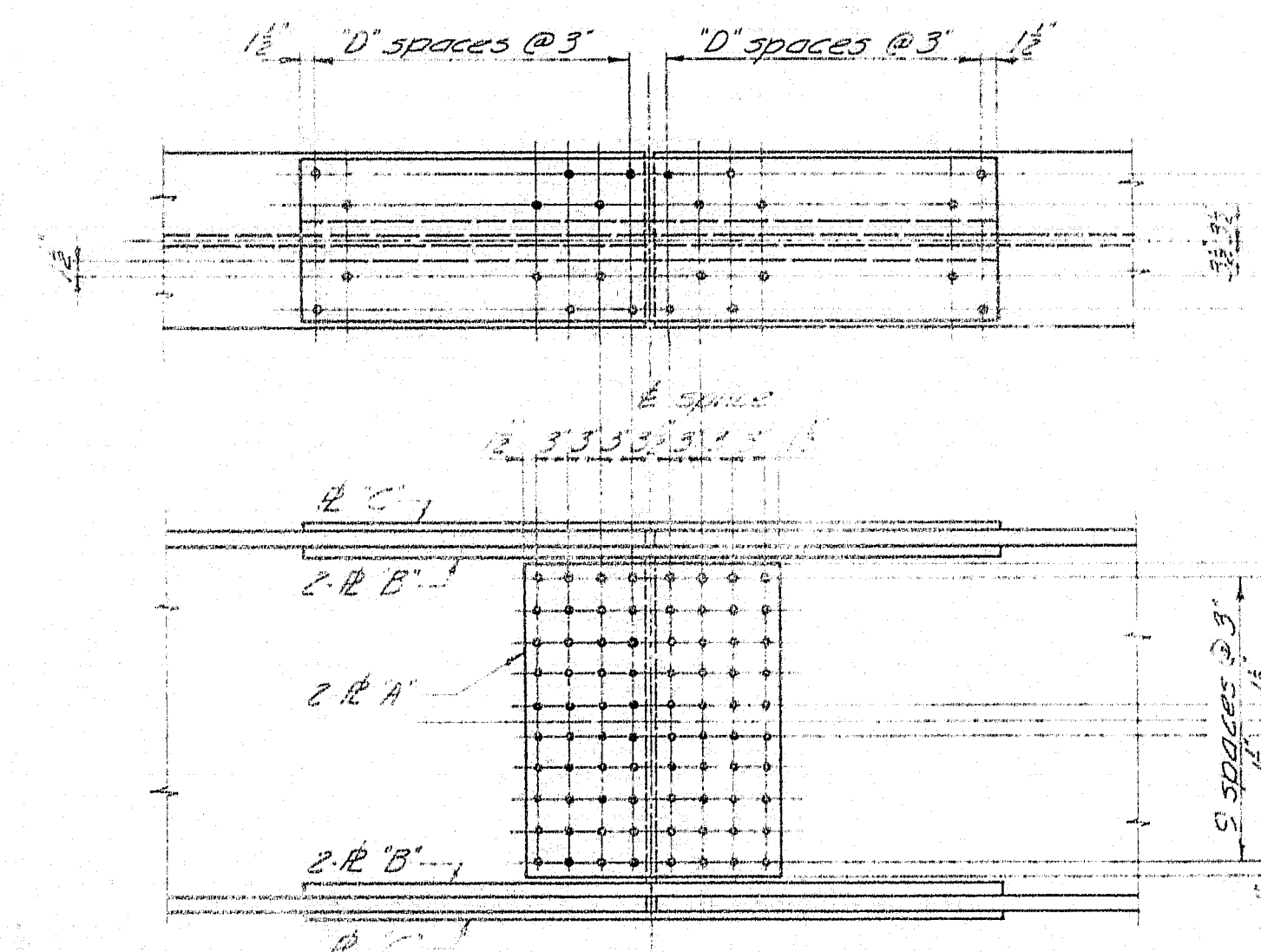
36 WF 245, 280



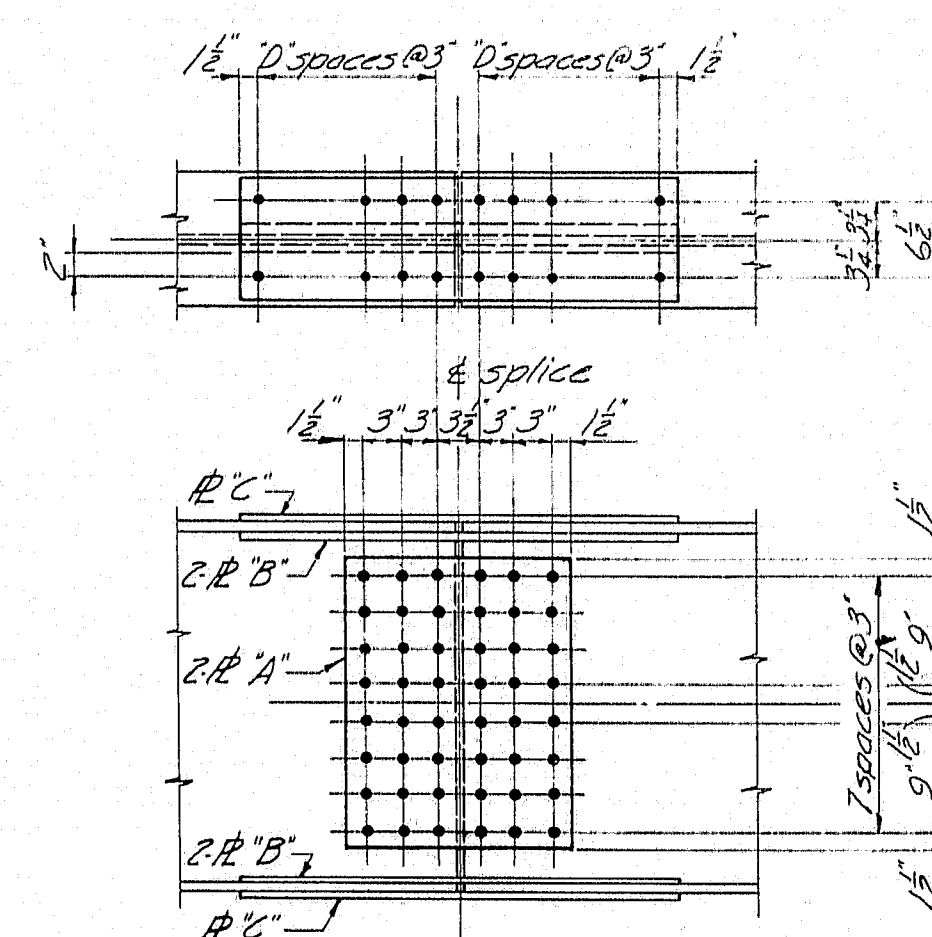
27 WF 94, 102, 114



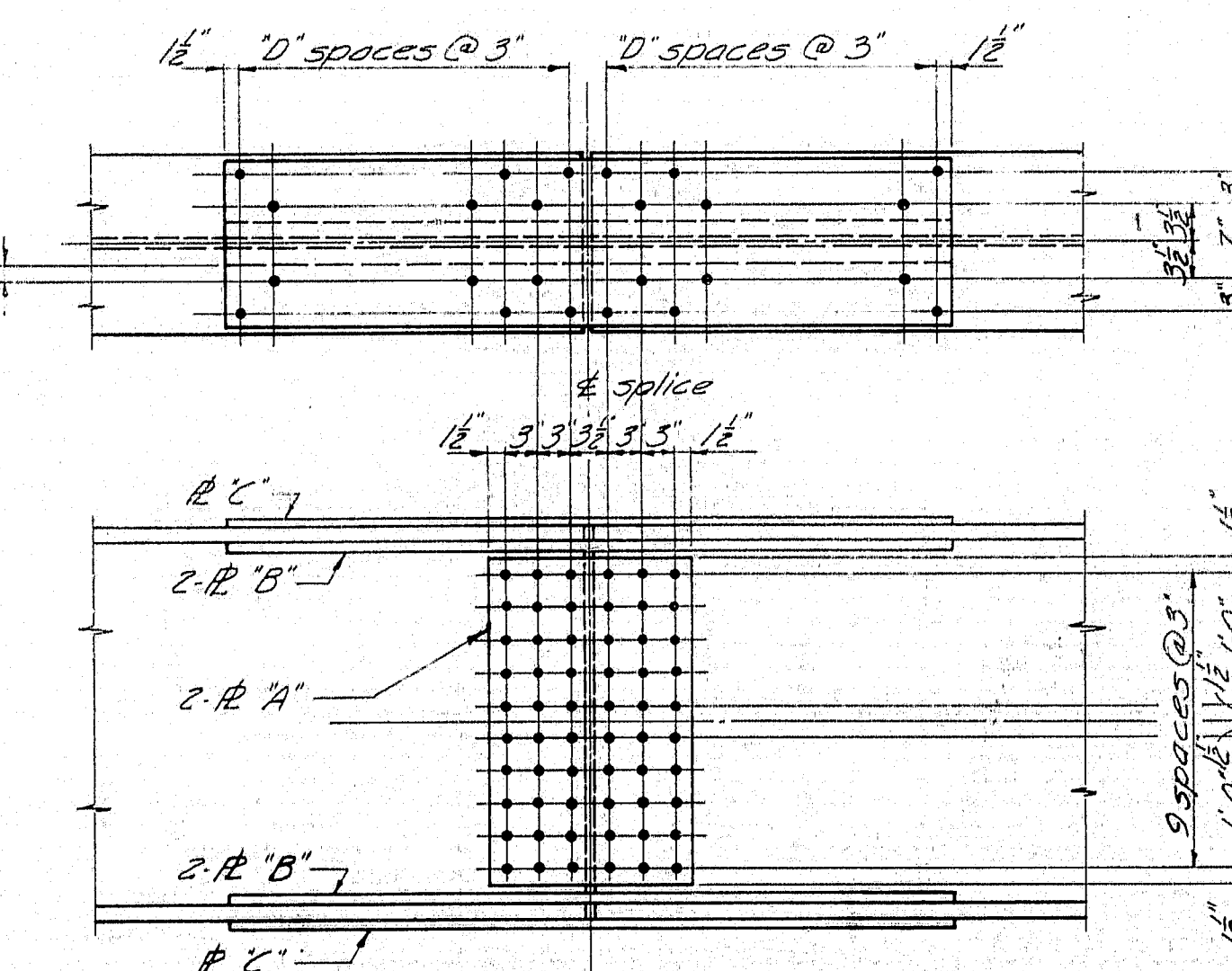
36 WF 135, 150, 160, 170, 182, 194



36 WF 300



30 WF 99, 108, 116, 124, 132



36 WF 230, 260

SPLICE DESIGN, PLATES AND FLANGE HOLES

BEAM	BEND. M.	SHEAR	PLATE "A"	PLATE "B"	PLATE "C"	"D"
27 WF 84	3070"	111"	12 x 1/2	4 x 1/2	10 x 1/2	3
27 WF 94	3320"	119"	12 x 1/2	4 x 1/2	10 x 1/2	3
27 WF 102	3362"	126"	12 x 1/2	4 x 1/2	10 x 1/2	4
27 WF 114	4341"	140"	12 x 1/2	4 x 1/2	10 x 1/2	4
30 WF 99	3921"	130"	12 x 1/2	4 x 1/2	10 x 1/2	3
30 WF 108	4360"	147"	12 x 1/2	4 x 1/2	10 x 1/2	4
30 WF 116	4780"	152"	12 x 1/2	4 x 1/2	10 x 1/2	4
30 WF 124	5170"	159"	12 x 1/2	4 x 1/2	10 x 1/2	4
30 WF 132	5530"	164"	12 x 1/2	4 x 1/2	10 x 1/2	5
33 WF 118	5281"	160"	12 x 1/2	4 x 1/2	11 x 1/2	4
33 WF 130	5978"	170"	12 x 1/2	4 x 1/2	11 x 1/2	5
33 WF 141	6664"	178"	12 x 1/2	4 x 1/2	11 x 1/2	5
33 WF 152	7350"	187"	12 x 1/2	4 x 1/2	11 x 1/2	6
36 WF 135	6474"	182"	12 x 1/2	4 x 1/2	11 x 1/2	4
36 WF 150	7430"	200"	12 x 1/2	4 x 1/2	11 x 1/2	5
36 WF 160	8000"	210"	12 x 1/2	4 x 1/2	11 x 1/2	6
36 WF 170	8574"	220"	12 x 1/2	4 x 1/2	11 x 1/2	6
36 WF 182	9264"	237"	12 x 1/2	4 x 1/2	11 x 1/2	7
36 WF 194	9950"	253"	12 x 1/2	4 x 1/2	11 x 1/2	8
36 WF 245	12700"	347"	12 x 1/2	4 x 1/2	16 x 1/2	10
36 WF 280	14200"	380"	12 x 1/2	4 x 1/2	16 x 1/2	11
36 WF 300	15500"	410"	12 x 1/2	4 x 1/2	16 x 1/2	12
36 WF 300	15500"	410"	12 x 1/2	4 x 1/2	16 x 1/2	13
36 WF 300	15500"	410"	12 x 1/2	4 x 1/2	16 x 1/2	14

GENERAL NOTES

1. Splice connections to be made with a high tensile strength bolts, bolts to be 8 ft.
2. The design bending moment is 90% of the net resisting moment of the beam with an allowable stress of 20,000 p.s.i. The design shear is 75% of the shear strength of the gross section of the web with an allowable stress of 12,000 p.s.i.
3. If beams of different sizes are to be spliced, use splice details shown for the smaller of the beams being spliced unless otherwise directed by design details. See design details for filler thickness. Place fillers to limits of splice plates only, with no extensions.
4. See design details for slopes of beams in order to correctly fabricate barrels at the splices.

A.S.T.M. STEEL CLASSIFICATION

High Tensile Strength Bolts.....A-325
Splice Plates.....A-36

DESIGN SPECIFICATIONS

AASHTO Standard Specifications for Highway Bridges, 1961 with Interim Specifications, 1961 & 1962

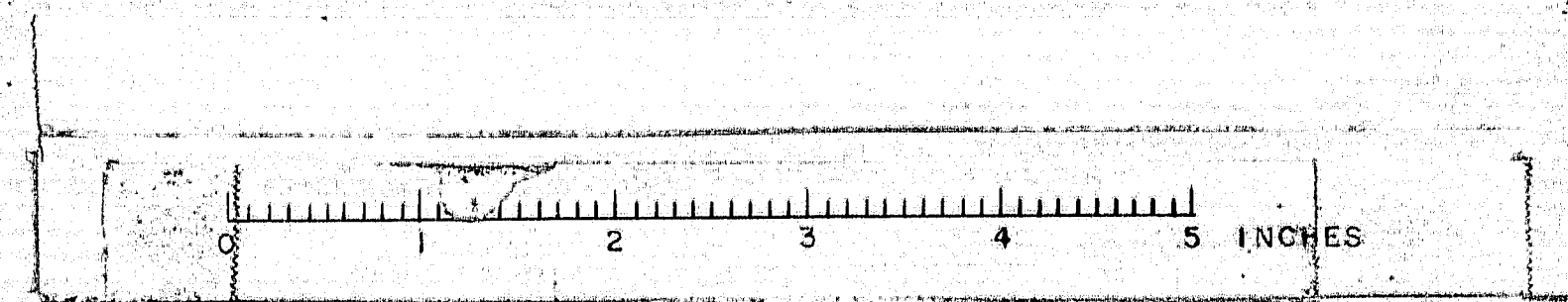
MAINE STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

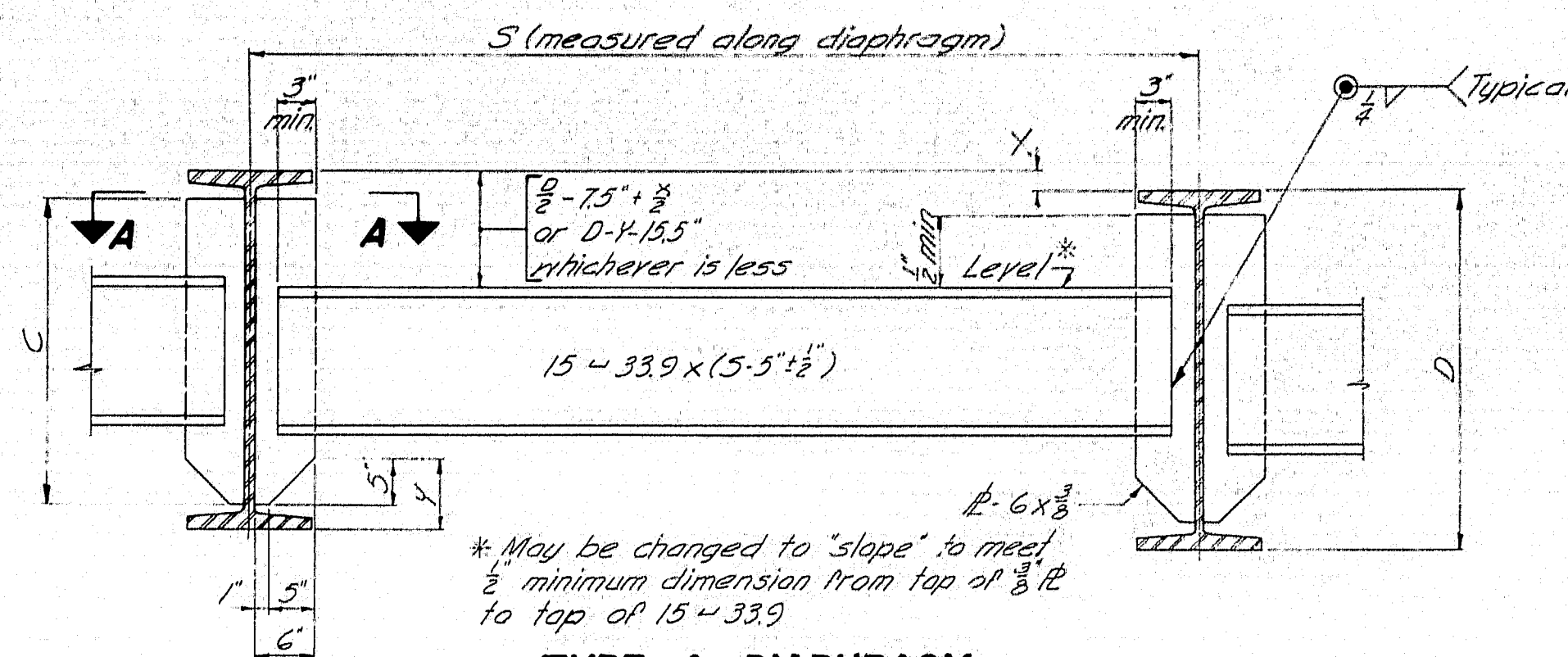
STANDARD DETAILS
(BD 103-64)

BEAM SPLICES

JANUARY 1964

95-98



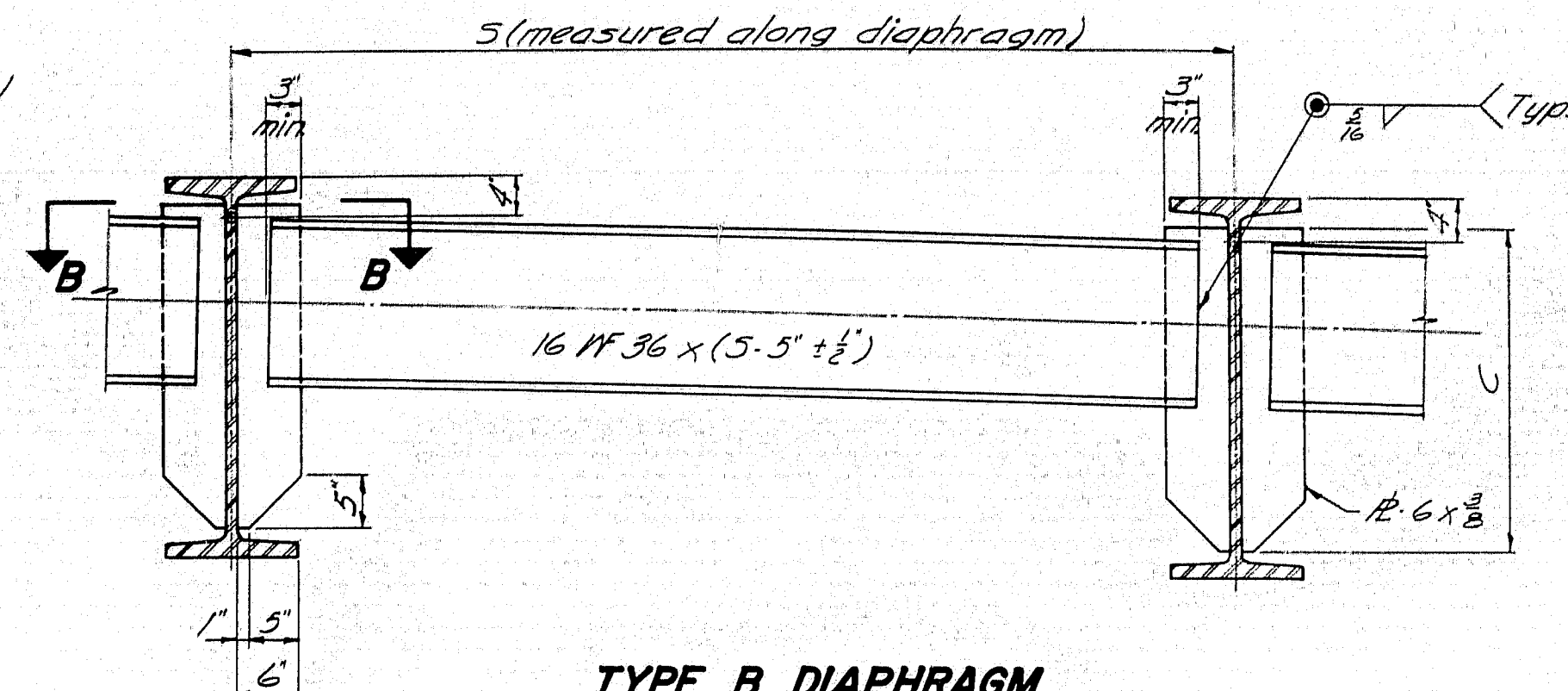


SECTION A-A
Skew Angle 0° to 15°-30'

SECTION A-A
Skew Angle over 15°-30' to 30°-00'

SECTION A-A
Skew Angle over 30°-00'

FILLET WELD SIZE "N" & DIMENSION "C" FOR DIAPHRAGM PLATES		
BEAM	C	N
2" WF 84 to 114 incl.	1-11"	1/4"
30 WF 99 to 132 incl.	2-2"	1/4"
33 WF 118 to 152 incl.	2-5"	1/4"
36 WF 135 to 194 incl.	2-7"	1/4"
36 WF 230 to 300 incl.	2-6"	1/4"

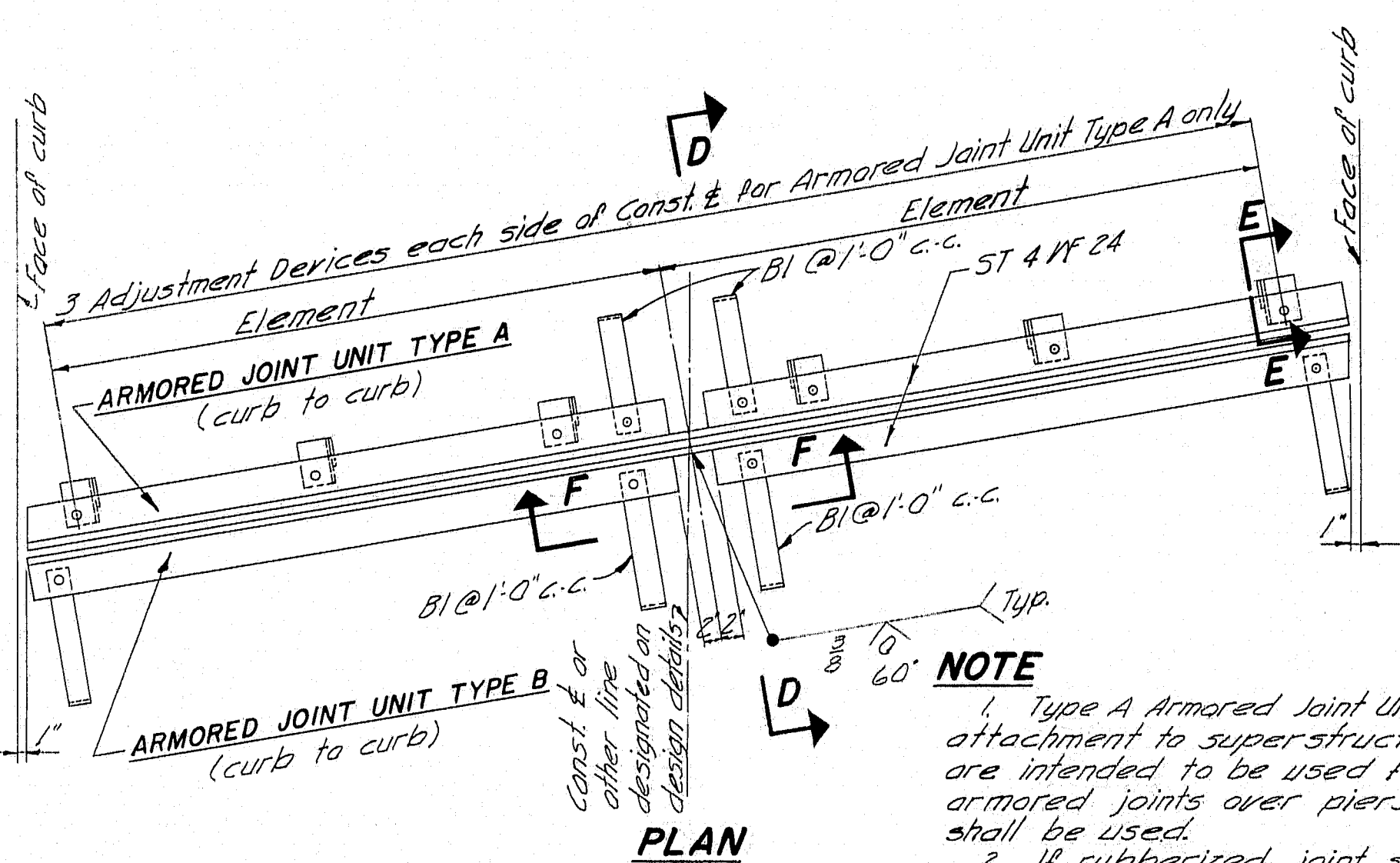


SECTION B-B
Skew Angle 0° to 25°-00'

SECTION B-B
Skew Angle over 25°-00'

NOTE
See design details for diaphragm type, location and skew.

DIAPHRAGMS

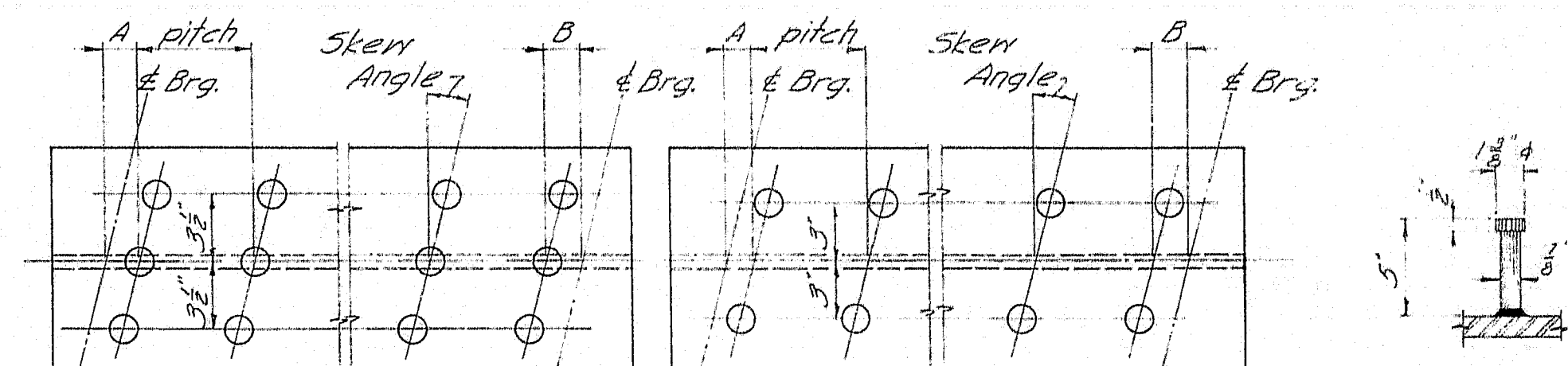
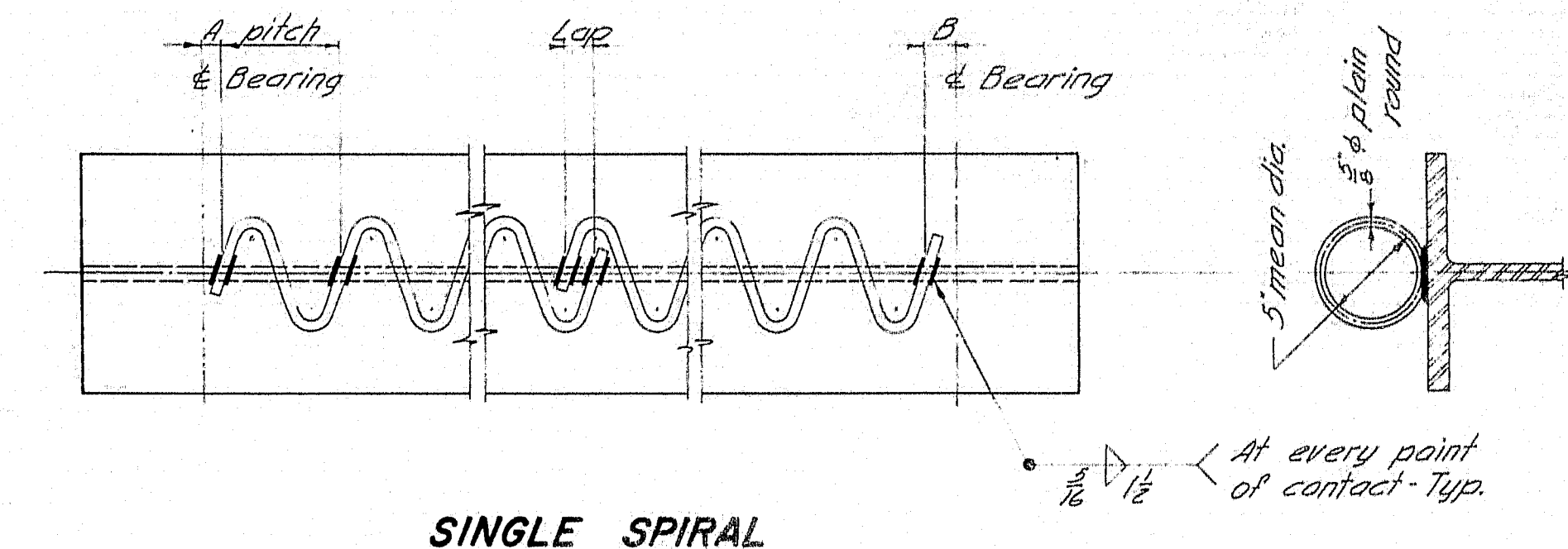
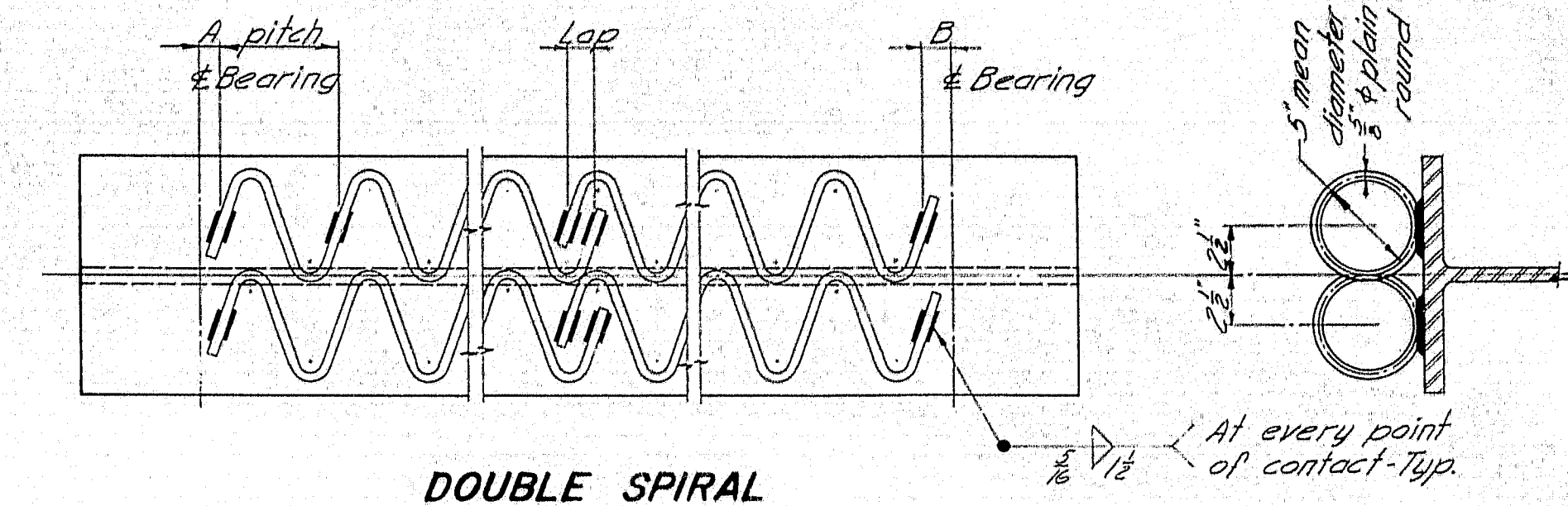


NOTE

1. Type A Armored Joint Units are intended to be used for attachment to superstructures. Type B Armored Joint Units are intended to be used for attachment to abutments. At armored joints over piers, two Type A Armored Joint Units shall be used.
2. If rubberized joint sealer is called for on the design details the area to which it is to be banded shall not be painted and it shall be supported on non-bituminous material. At the Contractor's option the supporting material may be left in place or be removed. If the supporting material is left in place, it shall be compressible in accordance with specification AA540 M.153.5A. In either case band between the supporting material and the rubberized joint sealer shall be prevented by a 1" minimum thickness of Poly-urethane Foam.
3. If more elements than the two shown in the "Plan" are required by the design details, there shall be three adjustment devices for each element for Armored Joint Unit Type A and the elements of both units shall be field welded together in the same manner as shown in the "Plan".
4. Armored Joints to be paid for as Structural Steel.

ARMORED JOINT

An armored joint consists of two armored joint units. See note 1.

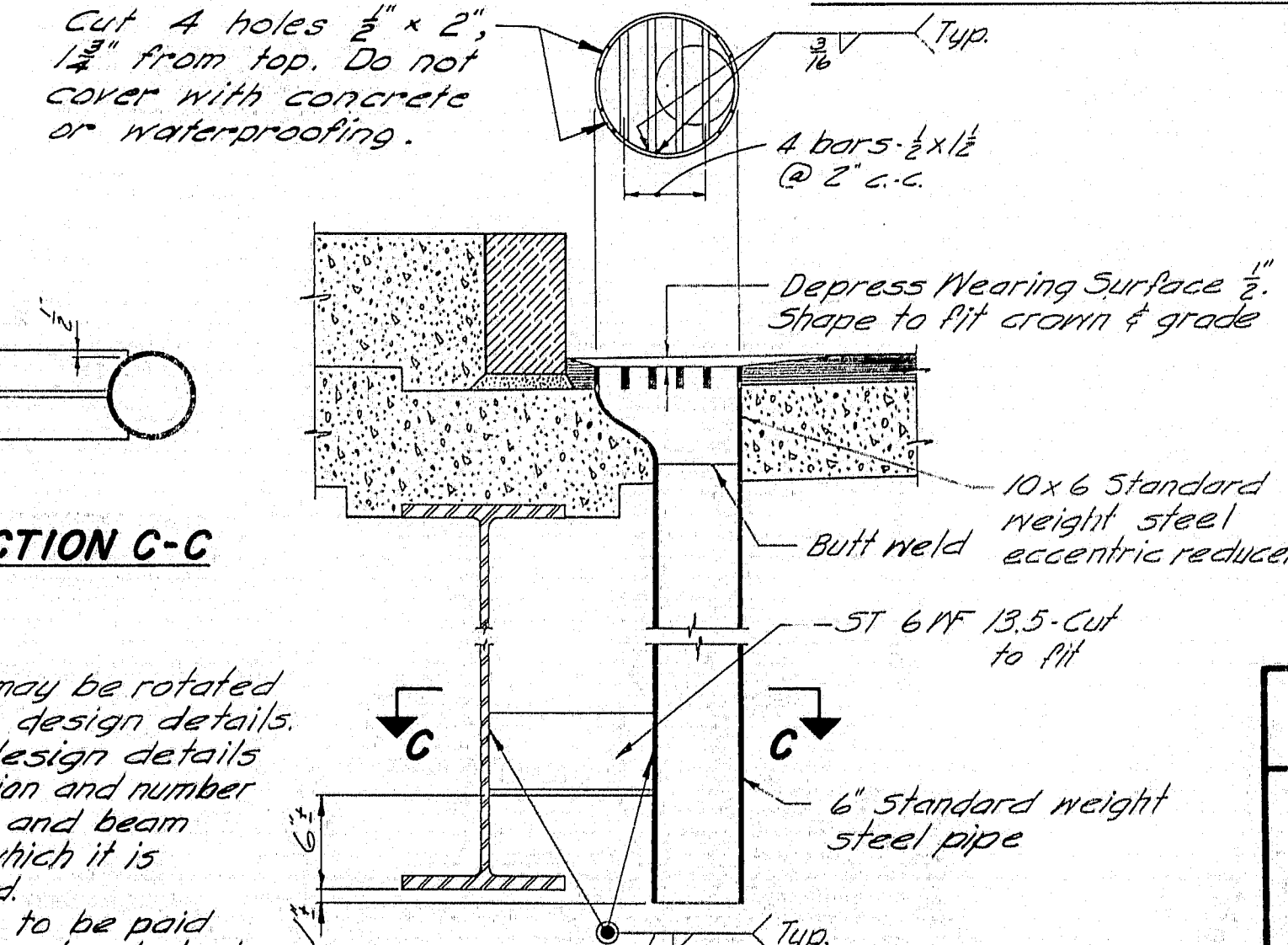


STUD DETAIL

NOTE

1. Spiral reinforcing or studs may be used at the option of the Contractor.
2. If studs are used they shall be granular or solid flux filled and automatically end welded to the top flange in the shop or field.
3. Studs are a patented product. If the Contractor elects to use them, he shall pay the royalty and payment to the contractor will be included in the lump sum price for Shear Connectors.
4. See the design details for Dimensions "A" and "B", spiral and stud pitch and Skew Angle for Studs.

SHEAR CONNECTORS



NOTE

1. Drain may be rotated 180°. See design details.
2. See design details for location and number of drains and beam size to which it is connected.
3. Drains to be paid for as structural steel.

DRAIN

GENERAL NOTE

Use only those items called for on design details. In case of conflict between these Standard Details and the design details, the requirements of the design details shall be followed.

MAINE STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

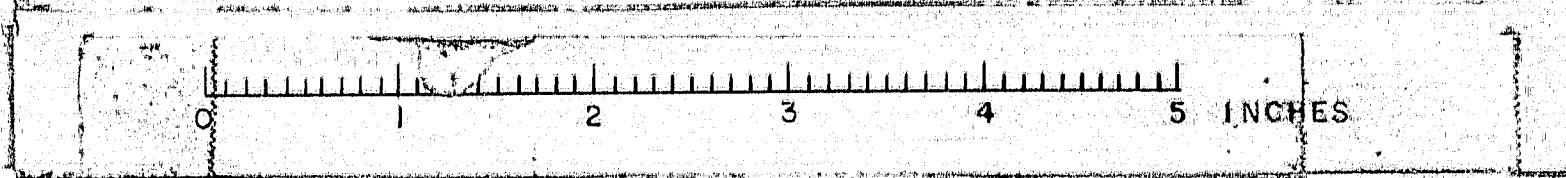
STANDARD DETAILS

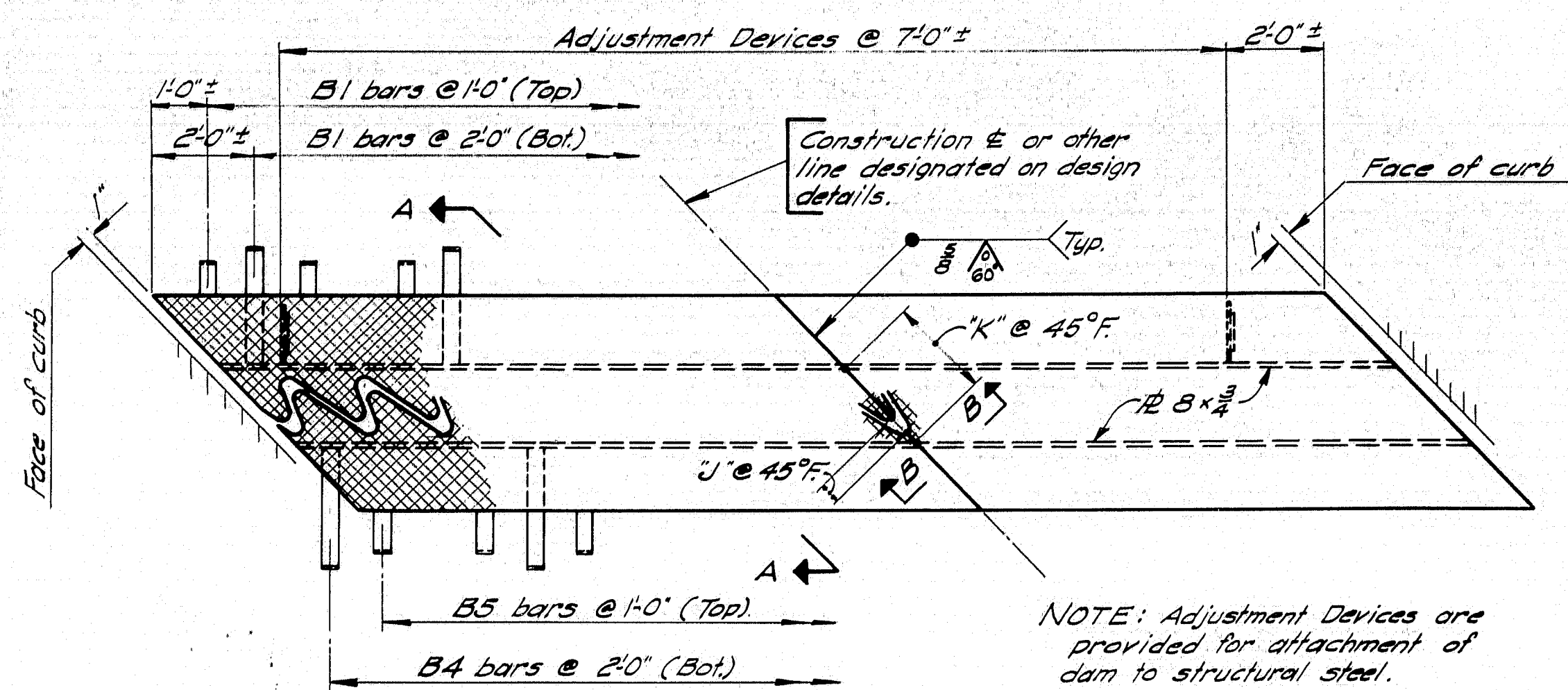
(BD 104-64)

DIAPHRAGMS, ARMORED JOINT,
SHEAR CONNECTORS, DRAIN

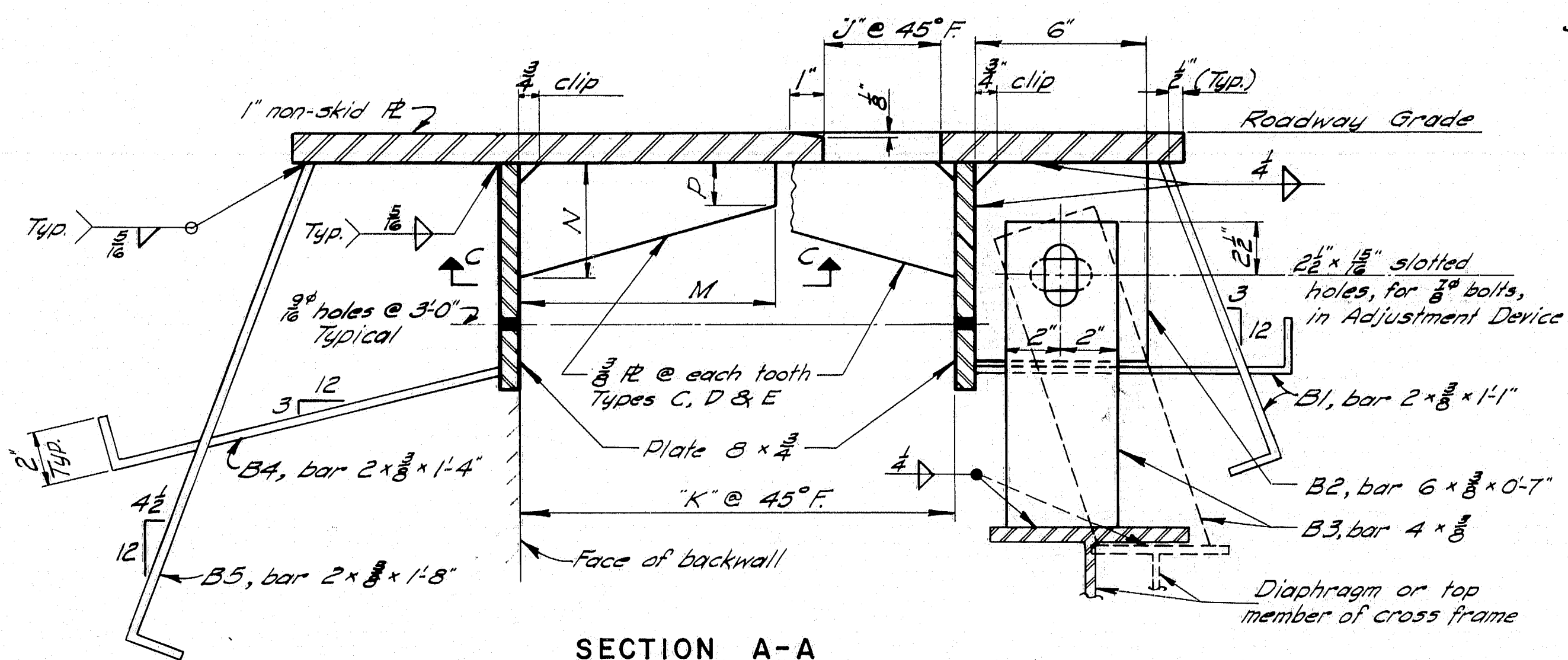
JANUARY 1964

95-99



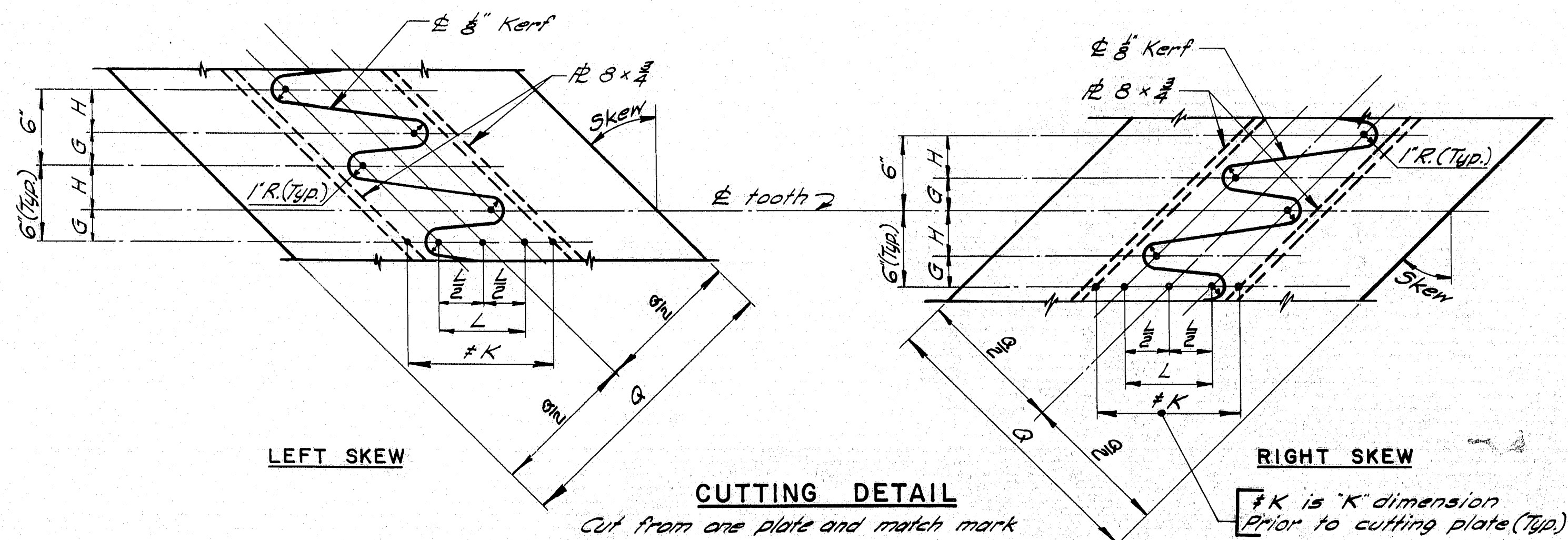


PLAN
skew indicated

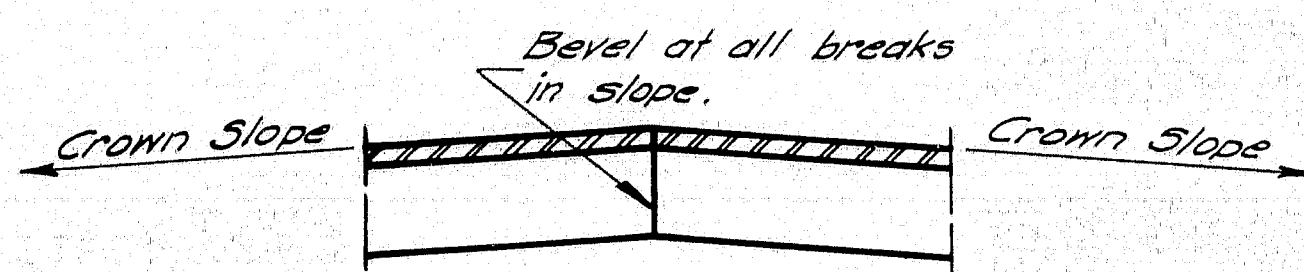


SECTION A-A

Bar B3 may be vertical or inclined as indicated, depending on design conditions.
After Adjustment Device is in final position weld bars B2 to B3 with $\frac{1}{4}$ " fillet weld.

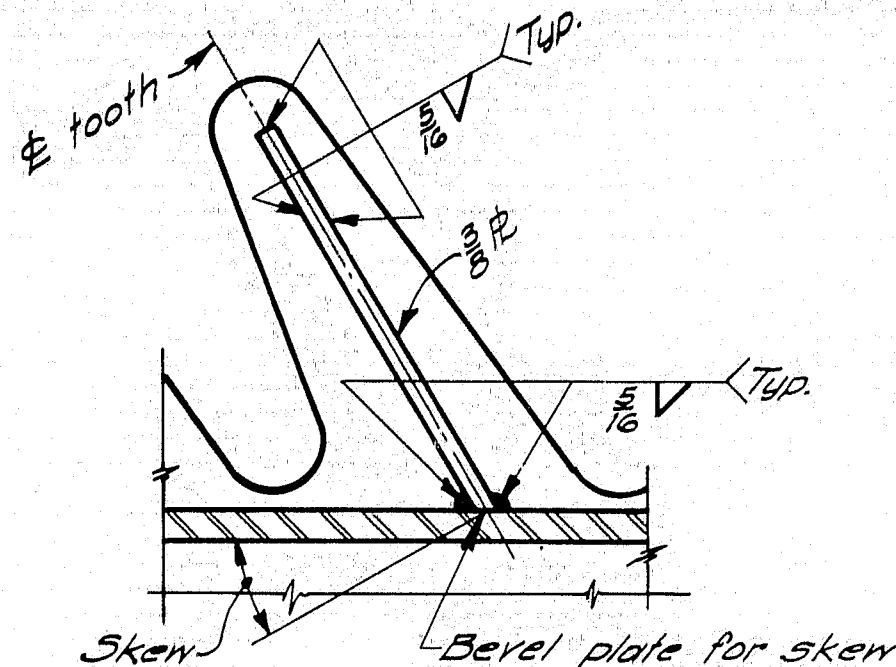


ROADWAY EXPANSION DAM - DETAILS



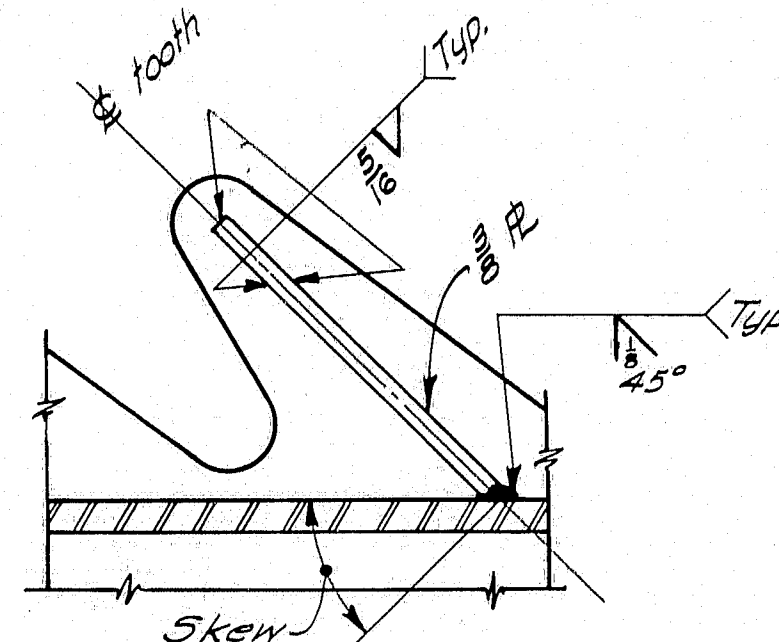
SECTION B-B

See design details for construction & to curb dimensions, skew, crown slope, slab thickness, other dimensions & angles that are necessary to complete fabrication details and location of Roadway Expansion Dam.



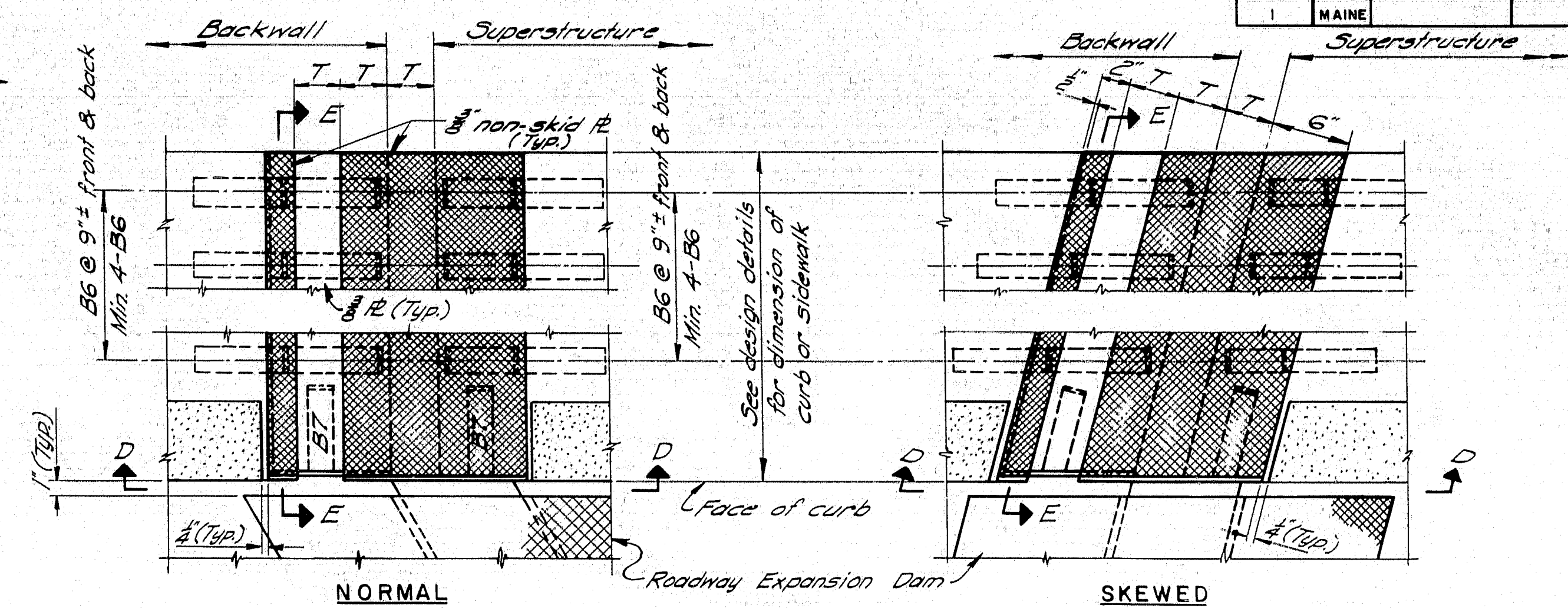
SECTION C-C

Skew ~ 0° to 30° 0'

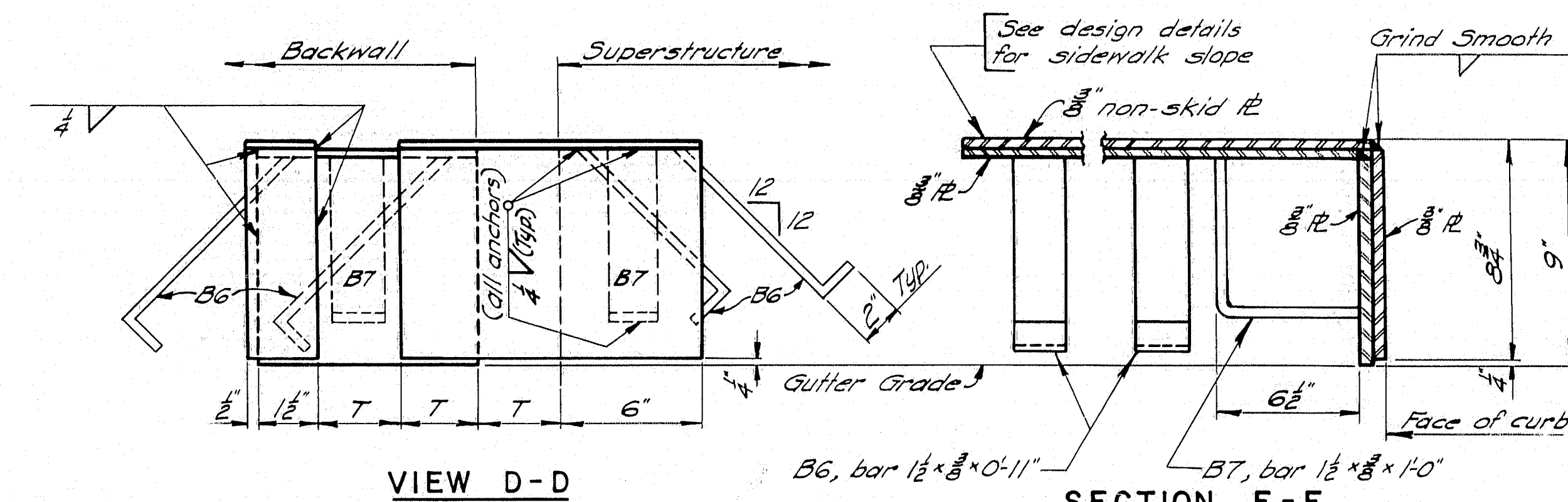


SECTION C-C

Skew over 30°



PLAN



VIEW D-D

SECTION E-E

TYPE	V	W	X	Y	Z
Exp.Length	100'-280'	280'-440'	440'-600'	600'-760'	760'-920'
T	3"	4"	5"	6"	7"

CURB AND SIDEWALK EXPANSION DAM - DETAILS

TABLE OF DIMENSIONS												
Type	Exp. Length	Skew	7 K	L	G	H	X@45°	Y@45°	M	N	P	Q
A	100'-280'	0°-5° incl.	7"	4"	3"	9"	28"	—	—	—	21"	21"
		5°-10° ↓	7½"	4½"	2½"	9½"	28"	—	—	—	22"	22"
		10°-20° ↓	8"	4½"	2½"	10"	28"	—	—	—	22"	22"
		20°-30° ↓	8½"	5"	2½"	10½"	28"	—	—	—	23"	23"
		30°-40° ↓	9½"	5½"	2½"	11½"	28"	—	—	—	23"	23"
		40°-50° incl.	11½"	6½"	2½"	13½"	28"	—	—	—	23"	23"
B	280'-440'	0°-5° incl.	9"	6"	3"	12"	38"	—	—	—	23"	23"
		5°-10° ↓	9½"	6½"	2½"	12½"	38"	—	—	—	24"	24"
		10°-20° ↓	10"	6½"	2½"	13"	38"	—	—	—	24"	24"
		20°-30° ↓	10½"	7"	2½"	13½"	38"	—	—	—	25"	25"
		30°-40° ↓	12"	8"	2½"	15"	38"	—	—	—	25"	25"
		40°-50° incl.	13½"	8½"	2½"	16½"	38"	—	—	—	25"	25"
C	440'-600'	0°-10° incl.	11½"	8½"	3"	15½"	48"	9"	4"	1½"	26"	26"
		10°-20° ↓	12"	8½"	2½"	16"	48"	10"	4"	1½"	26"	26"
		20°-30° ↓	12½"	9½"	2½"	16½"	48"	11"	4"	1½"	26"	26"
		30°-40° ↓	14"	10"	2½"	18"	48"	11"	4"	1½"	26"	26"
		40°-50° incl.	15½"	10½"	2½"	19½"	48"	12"	4"	1½"	26"	26"
		0°-10° incl.	13½"	10½"	3"	3"	18½"	58"	11"	5"	2"	30"
D	600'-760'	10°-20° ↓	14"	10½"	2½"	3½"	19"	58"	12"	5"	2"	30"
		20°-30° ↓	14½"	11½"	2½"	3½"	19½"	58"	13"	5"	2"	30"
		30°-40° ↓	16"	12"	2½"	3½"	21"	58"	15"	5"	2"	30"
		40°-50° incl.	17½"	13"	2½"	3½"	22½"	58"	15"	5"	2"	30"
		0°-10° incl.	15½"	12½"	3"	3"	21½"	68"	13"	6"	2½"	36"
		10°-20° ↓	16"	12½"	2½"	3½"	22"	68"	14"	6"	2½"	36"
E	760'-920'	20°-30° ↓	16½"	13½"	2½"	3½"	22½"	68"	15"	6"	2½"	36"
		30°-40° ↓	18"	14"	2½"	3½"	24"	68"	15"	6"	2½"	36"
		40°-50° incl.	19½"	15"	2½"	3½"	25½"	68"	17"	6"	2½"	36"
		0°-10° incl.	17½"	14½"	3"	3"	23½"	78"	15"	7"	3"	40"

GENERAL NOTES

Expansion Dams to be paid for as Structural Steel.
If there is conflict between this Standard Detail and the design details, the requirements of the design details shall be followed.

Steel Classification : A.S.T.M. A36

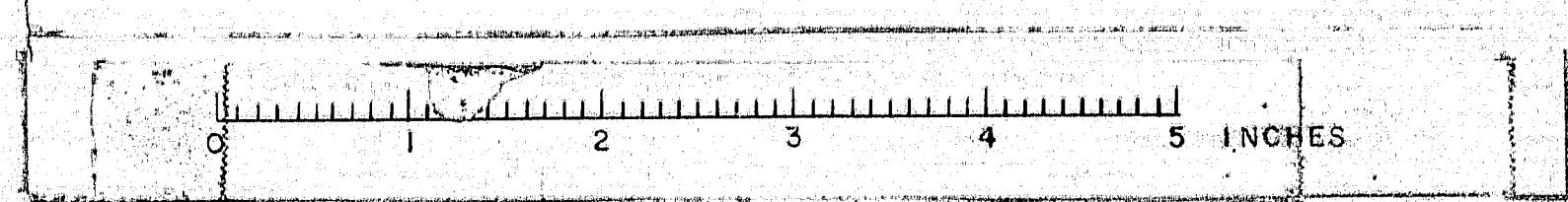
MAINE STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

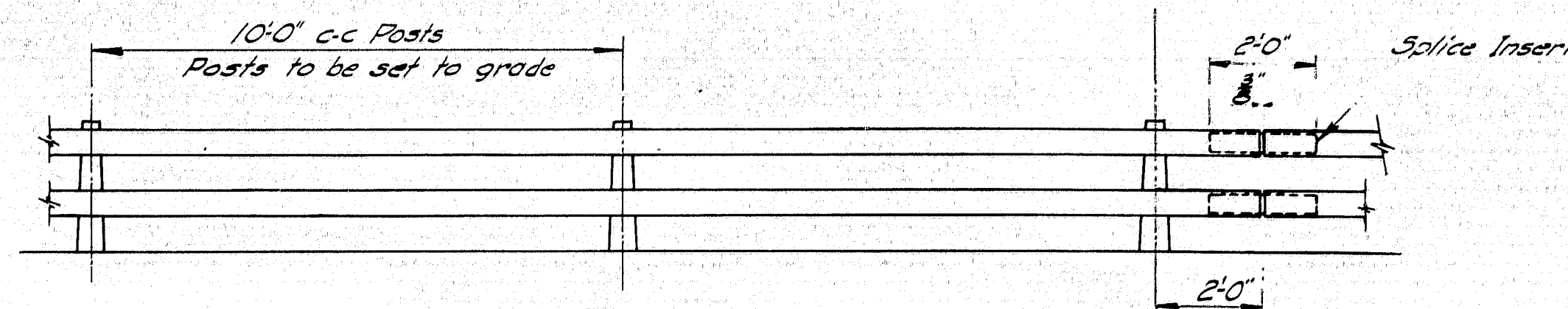
STANDARD DETAILS

(BD 105 - 64)

EXPANSION DAMS

APRIL 1964



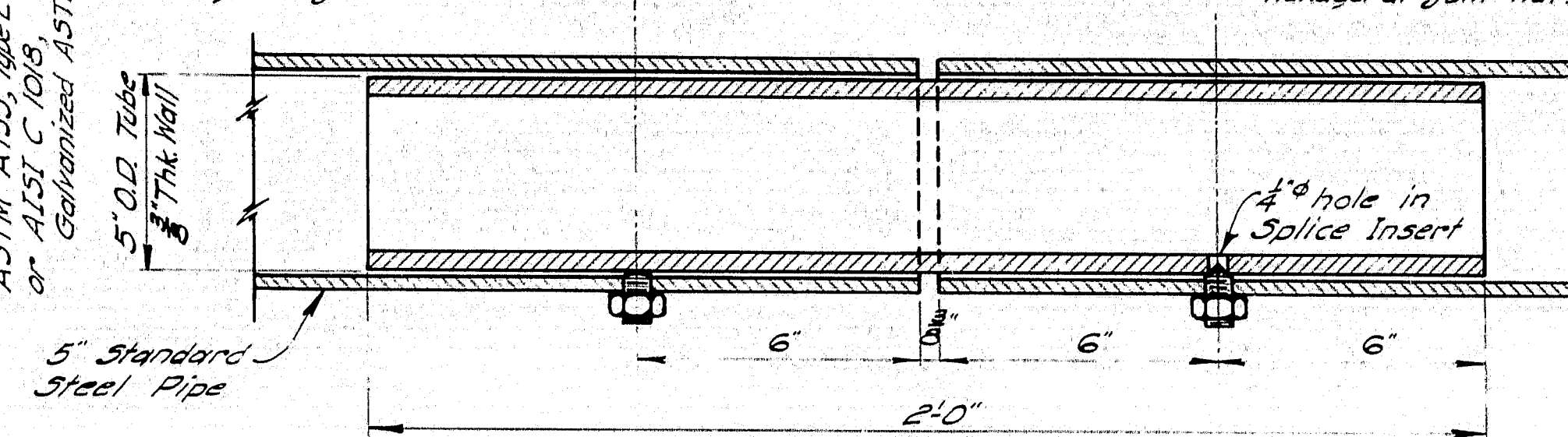


RAIL ELEVATION

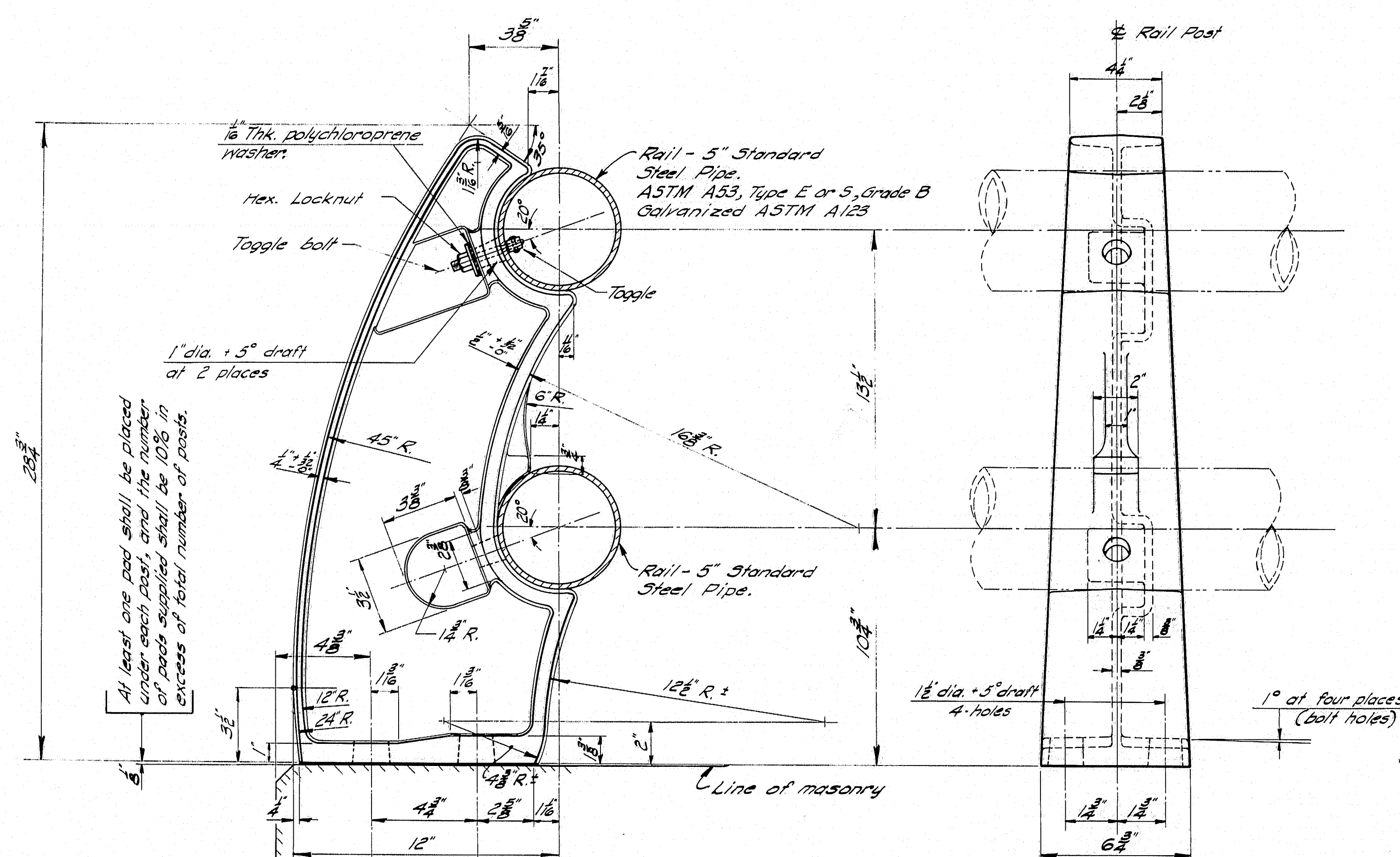
Lengths of rail shall be attached to a minimum of (4) four rail posts, wherever possible, and in any case never less than (2) two.

ASTM A153, Type E or S, Grade B or A153 C 1018, Galvanized ASTM A123

Self Screws = A5A B18.3 Galv. ASTM A153
 1/2" 16 NC x 3/4" hexagonal socket set screw with oval point and finished hexagonal jam nut.
 Drill & Tap 5" O.D. Tubing 1/2" 16 NC (76 suit set screw)
 1/2" 16 NC x 1" hexagonal socket set screw with cone point and finished hexagonal jam nut.



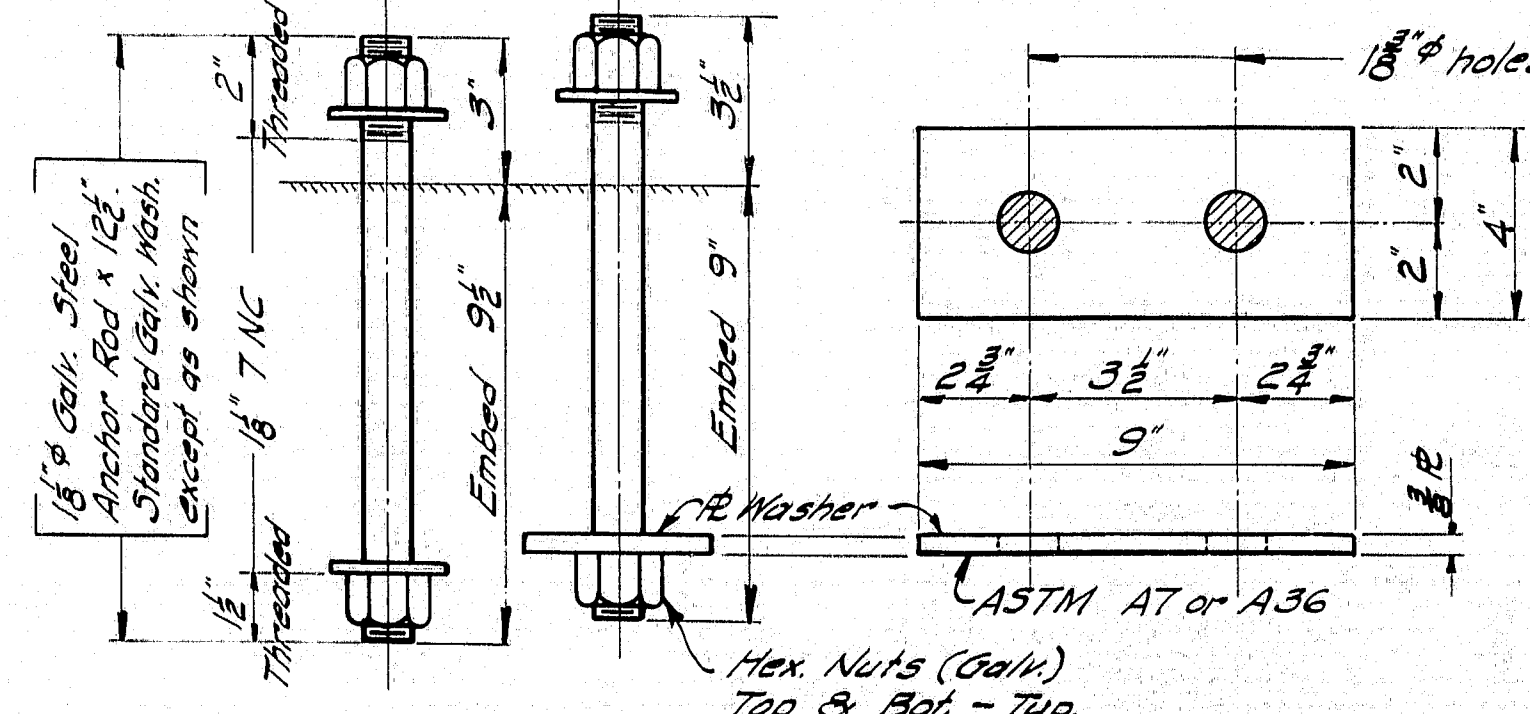
SPLICE INSERT



RAIL POST

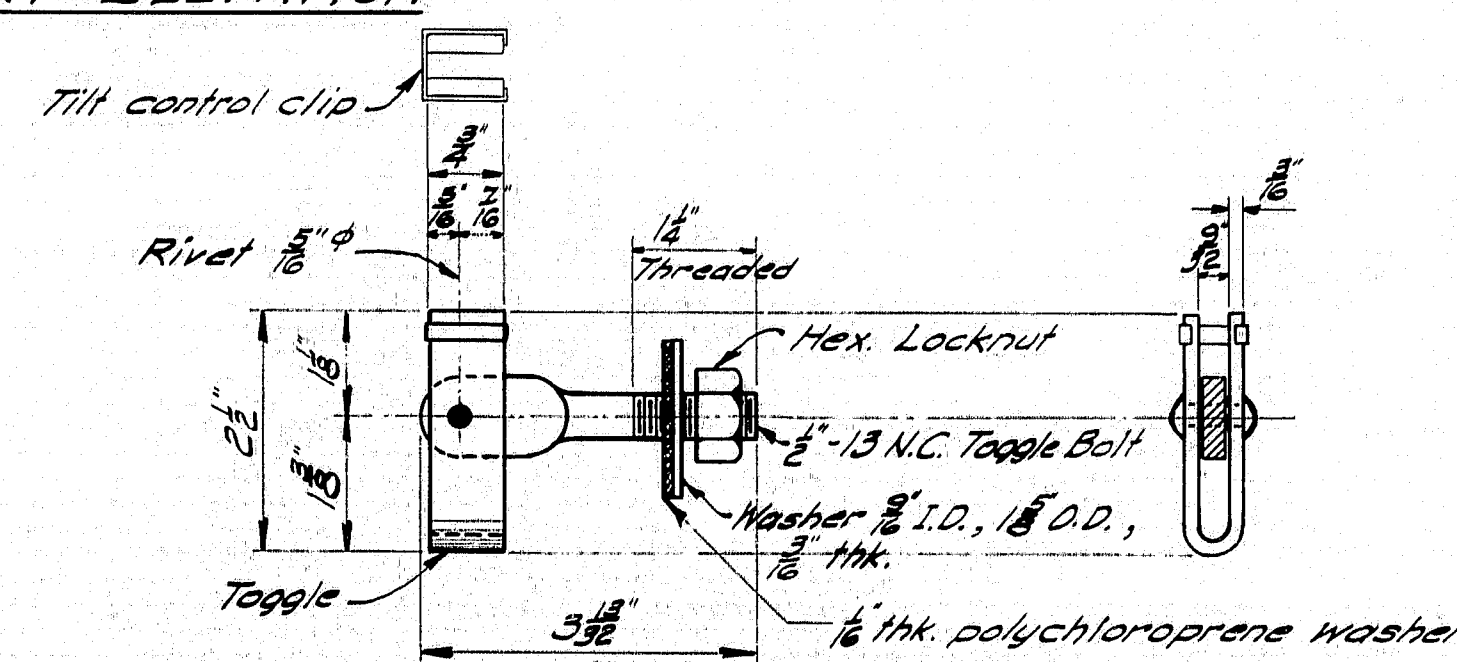
ASTM A27, Grade 65-35, Galvanized ASTM A153

FRONT ELEVATION



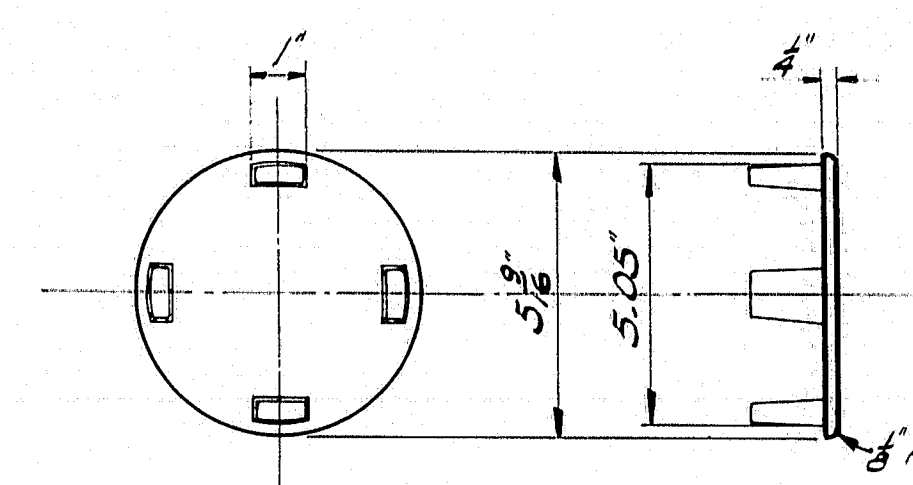
RAIL POST ANCHORAGE

Bolts, Nuts, & Std. Washers = ASTM A325 Galvanized ASTM A153



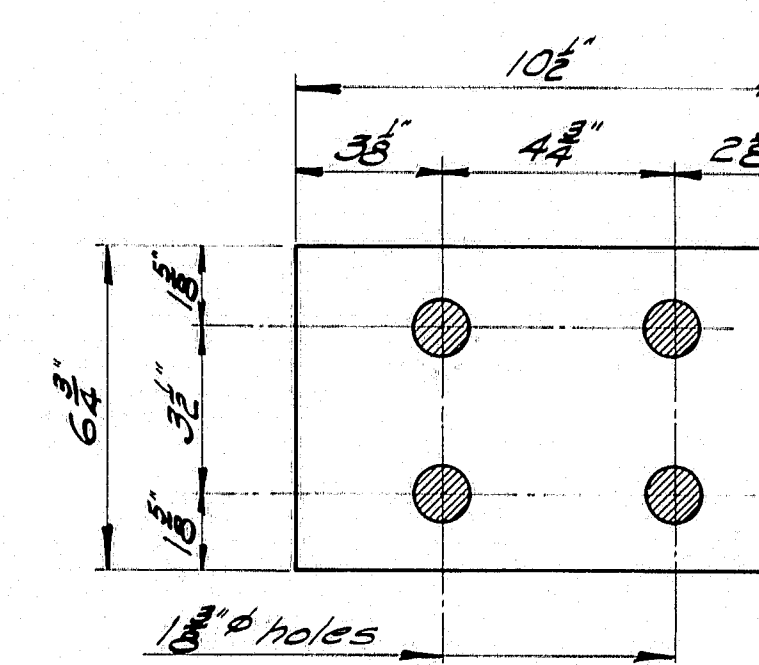
TOGGLE BOLT DETAIL

Cadmium Plate metal parts ASTM A165-55, Type N5, .0005" thick



RAIL CAP

ASTM A27, Grade 65-35, Galv. ASTM A153



PAD

At each rail post
 See Article 702-80 Supplemental Specifications of Feb. 1960.

DESIGN SPECIFICATIONS

A.A.S.H.O. Interim Specifications Int. 1 (64)

MAINE STATE HIGHWAY COMMISSION
 AUGUSTA, MAINE

STANDARD DETAILS

(BD 107 - 64)

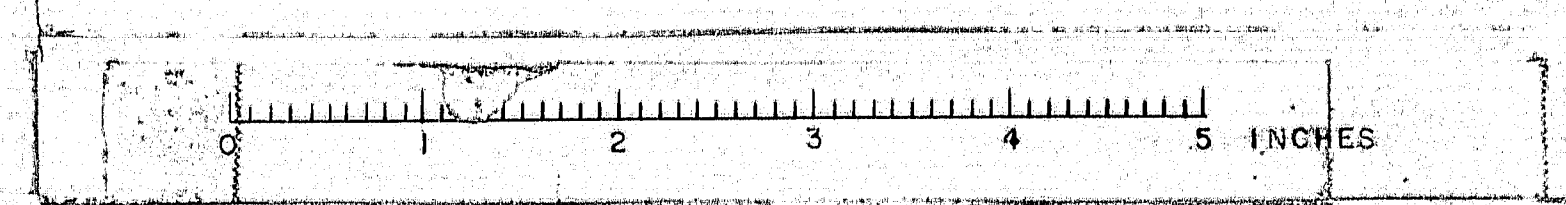
STEEL RAIL

(2-BAR PIPE RAIL)

CAST POST

OCT. 1964

95-100A



STATE OF MAINE STATE HIGHWAY COMMISSION



INTERSTATE 95

OVER

LINE ROAD

IN THE TOWN OF

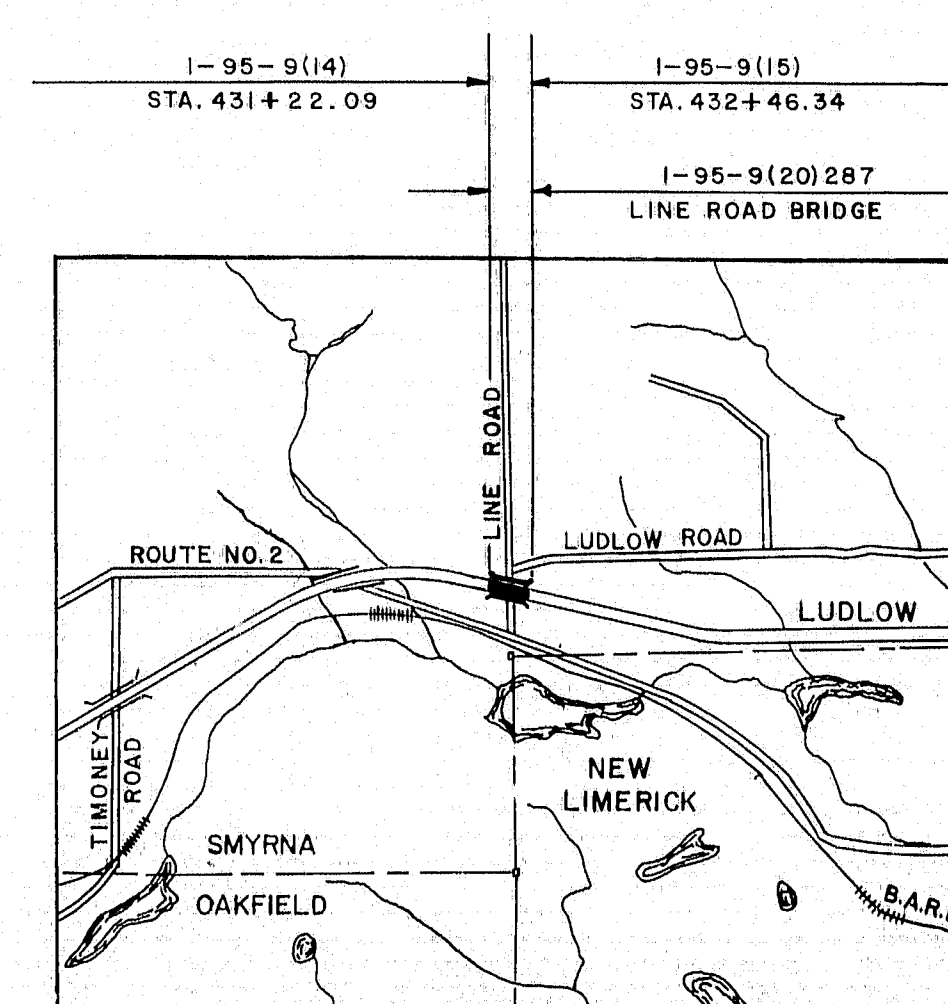
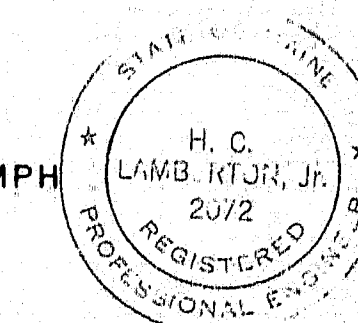
SMYRNA - LUDLOW AROOSTOOK COUNTY

FEDERAL AID PROJECT NO. I-95-9(20)287

LENGTH OF PROJECT 0.024 MILE

TRAFFIC

INTERSTATE 95	LINE ROAD
1950.....A.D.T. 1966.....100	
3050.....A.D.T. 1986.....160	
370.....D.H.V.20	
14%.....T.	
60%.....D.	
60 MPH.....V.....50 MPH	



LOCATION MAP
APPROX. SCALE - 1" = 1 MILE

SURVEY CROSS SECTION SCALES } HOR. 1"=50' VERT. 1"=5'
INTERSTATE 1"=10' LINE ROAD 1"=5'

INDEX OF SHEETS

- 1.....TITLE SHEET
- 2.....GENERAL PLAN & QUANTITIES
- 3.....PLANS, PROFILES & TYPICAL SECTIONS
- 4.....CROSS SECTIONS: S.B. ROADWAY
- 5.....CROSS SECTIONS: LINE ROAD
- 6.....FOUNDATION SURVEY
- 7.....ABUTMENT NO. 1
- 8.....ABUTMENT NO. 2-APPROACH SLAB
- 9.....PIERS
- 10.....STRUCTURAL STEEL & BLOCKING
- 11.....ARMORED JOINT & CURB DETAILS
- 12.....SUPERSTRUCTURE
- 13.....SLOPE PROTECTION
- 14.....REINFORCING STEEL

STANDARD DETAILS SHEETS

- BD 101-64.....BEARING DETAILS
BD 103-64.....BEAM SPLICES
BD 104-64.....DIAPHRAGMS, ARMORED JOINT,
SHEAR CONNECTORS, DRAIN
BD 107-64.....STEEL RAIL
BD 108-64.....ALUMINUM RAIL

PROJECT COMPLETED 10 NOV. '66

APPROVED
MAINE STATE HIGHWAY COMMISSION

David W. Sturges 9/9/64
CHAIRMAN DATE
Carl M. Stephens 9/9/64
Richard A. LaPointe 9/9/64
Charles M. ... 9/9/64
CHIEF ENGINEER

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
NEW YORK BOSTON KANSAS CITY

H. C. Lamb, Jr. 11/20/64
DATE

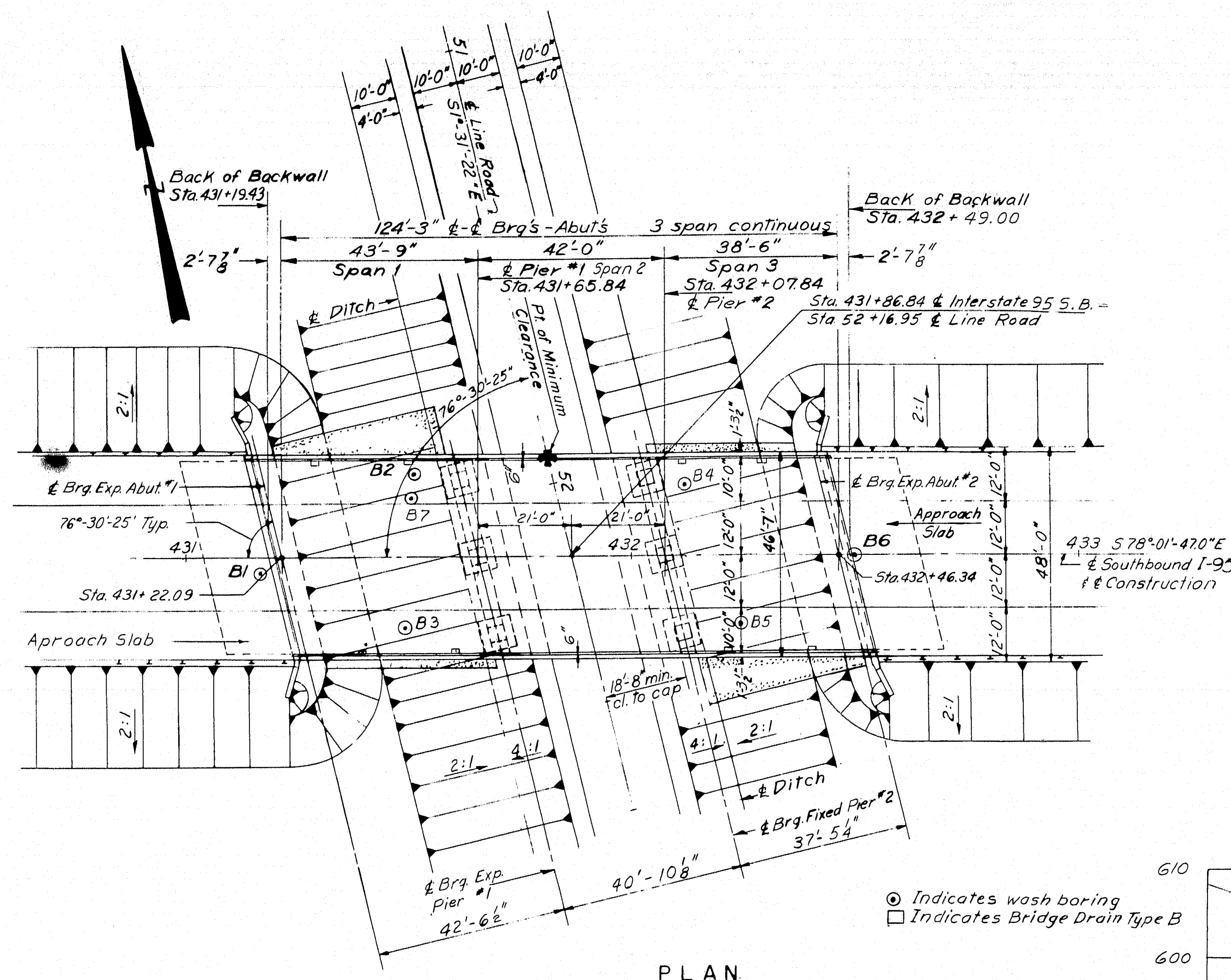
DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

REGION 1

APPROVED

DIVISION ENGINEER DATE

95-130 SMYRNA LUDLOW (20)



PLAN
1" = 20'

Item No.	Description	Unit	Quantity	Bridge Quantities
204-12	Structural Earth Exc. Abutments & Retaining Walls	Cu. Yds.	60	60 Cu. Yds.
204-14	Structural Earth Exc. Piers	Cu. Yds.	200	200 Cu. Yds.
204-15	Structural Back Exc. Piers	Cu. Yds.	10	10 Cu. Yds.
205-9	Granular Borrow	Cu. Yds.	9,500	
302-7	Gravel Base Course (I.P.M.)	Cu. Yds.	1,050	
701-33	Portland Cement Concrete, Abutments & Ret. Walls	Cu. Yds.	216	216 Cu. Yds.
701-35	Portland Cement Concrete, Piers	Cu. Yds.	121	121 Cu. Yds.
701-40	Port. Cem. Conc. Edwy. & Slab on Steel Bridges	Cu. Yds.	150	150 Cu. Yds.
701-55	Curing Box For Concrete Cylinders	Each	1	1 Each
702-103	Structural Steel, Fabricated & Delivered	L.S.	L.S.	Lump Sum
702-104	Structural Steel, Erection	L.S.	L.S.	Lump Sum
702-105	Structural Steel, Field Painting	L.S.	L.S.	Lump Sum
705-13	Reinforcing Steel, Delivered	Lbs.	74,600	74,600 Lbs.
705-14	Reinforcing Steel, Placing	Lbs.	74,600	74,600 Lbs.
708-16	Steel H-Beam Piles 42 Lbs./Ft.	Lin. Ft.	675	675 Lin. Ft.
805-8	Bridge Rail	Lin. Ft.	244	244 Lin. Ft.
807-11	Epoxy Resin Surface Sealant	Sq. Yds.	112	112 Sq. Yds.
901-24	Vertical Bridge Curb-Type 1	Lin. Ft.	253	253 Lin. Ft.
901-25	Vertical Bridge Curb-Type 1-Circular	Lin. Ft.	12	12 Lin. Ft.
908-10	Loom (I.P.M.)	Cu. Yds.	105	
910-18	Seeding Method No. 2	Units	17	
912-7	Hay Mulch	Tons	1	
913-8	Bituminous Treated Stone Slope Protection	Sq. Yds.	518	
913-9	Bituminous Concrete Gutter	Tons	14	
938-1	Warning Lights and Illuminating Signs	Group	2	

Estimated weight of Structural Steel including drains is 127,650 Lbs.

SPECIFICATIONS

DESIGN:
A.A.S.H.O. Standard Specifications for Highway Bridges 1961 with Interim Specifications, 1961, 1962, 1963 & 1964.

CONTRACT:
State of Maine, State Highway Commission, Standard Specifications for Highways and Bridges, Revision of January 1956 and Supplemental Specifications of February 1960.

LIVE LOADING

HS 20 - 44 (Modified for Interstate)

FOUNDATIONS

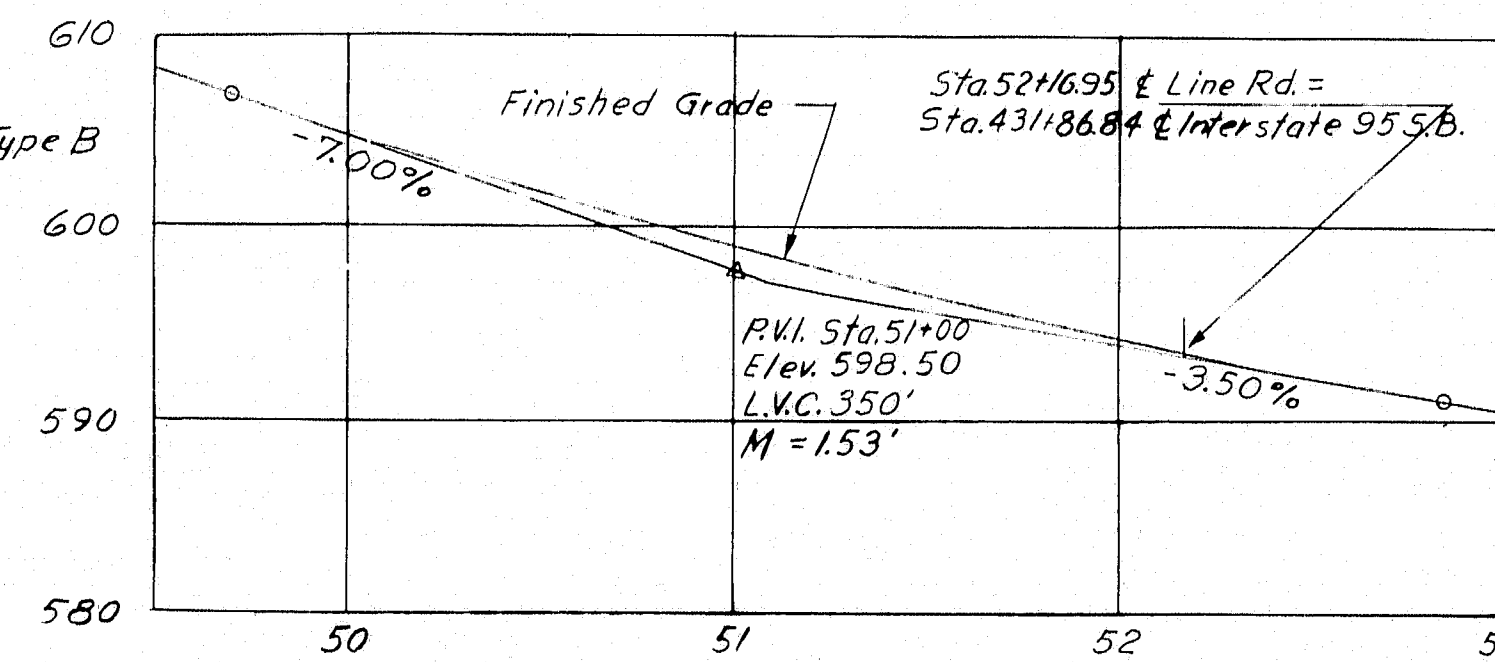
Abutments: 10BP42 End Bearing Piles (Capacity 37 tons)
Piers: Spread Footings on Ledge.

ALLOWABLE STRESSES

Concrete (n=10) ~ f_c = 1200 psi.
Reinforced Steel, Int. Grade ~ f_s = 20,000 psi.
Structural Steel ~ f_s = 20,000 psi. (A.S.T.M. A36)

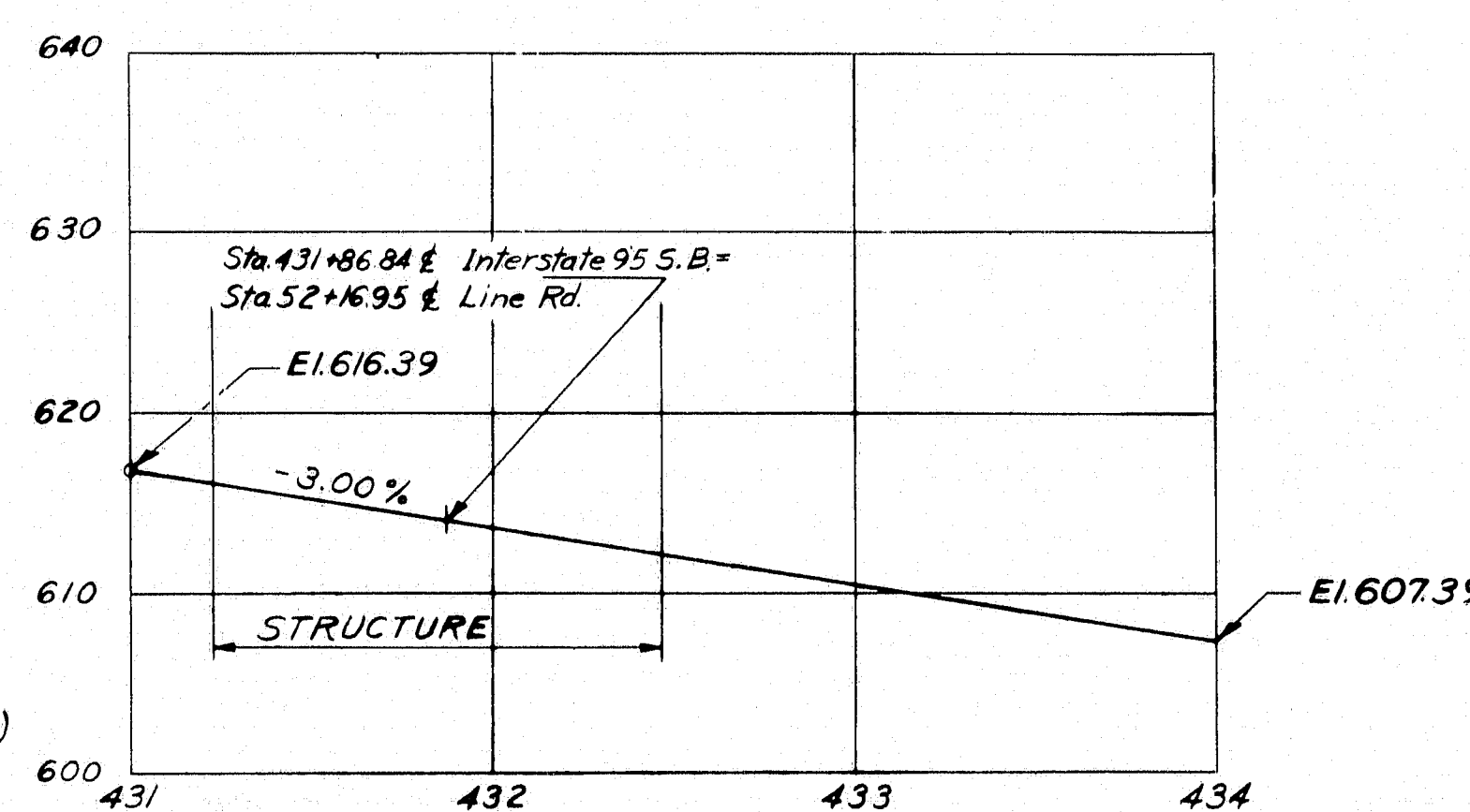
CONCRETE CLASSIFICATION

All concrete shall be Class 'A'



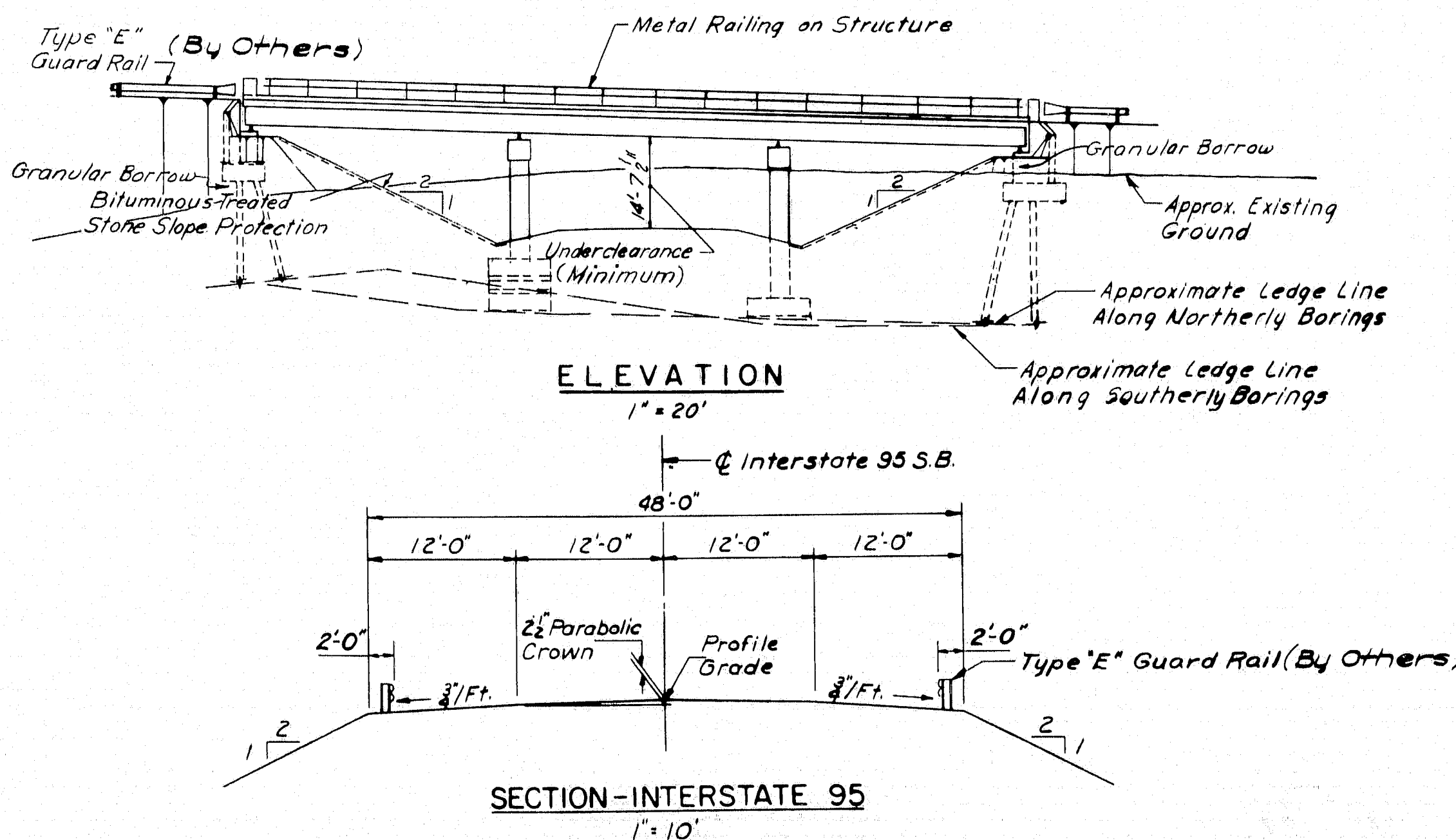
PROFILE - LINE ROAD

Horiz: 1" = 50'
Vert: 1" = 10'



PROFILE - SOUTHBOUND

Horiz: 1" = 50'
Vert: 1" = 10'



ELEVATION
1" = 20'

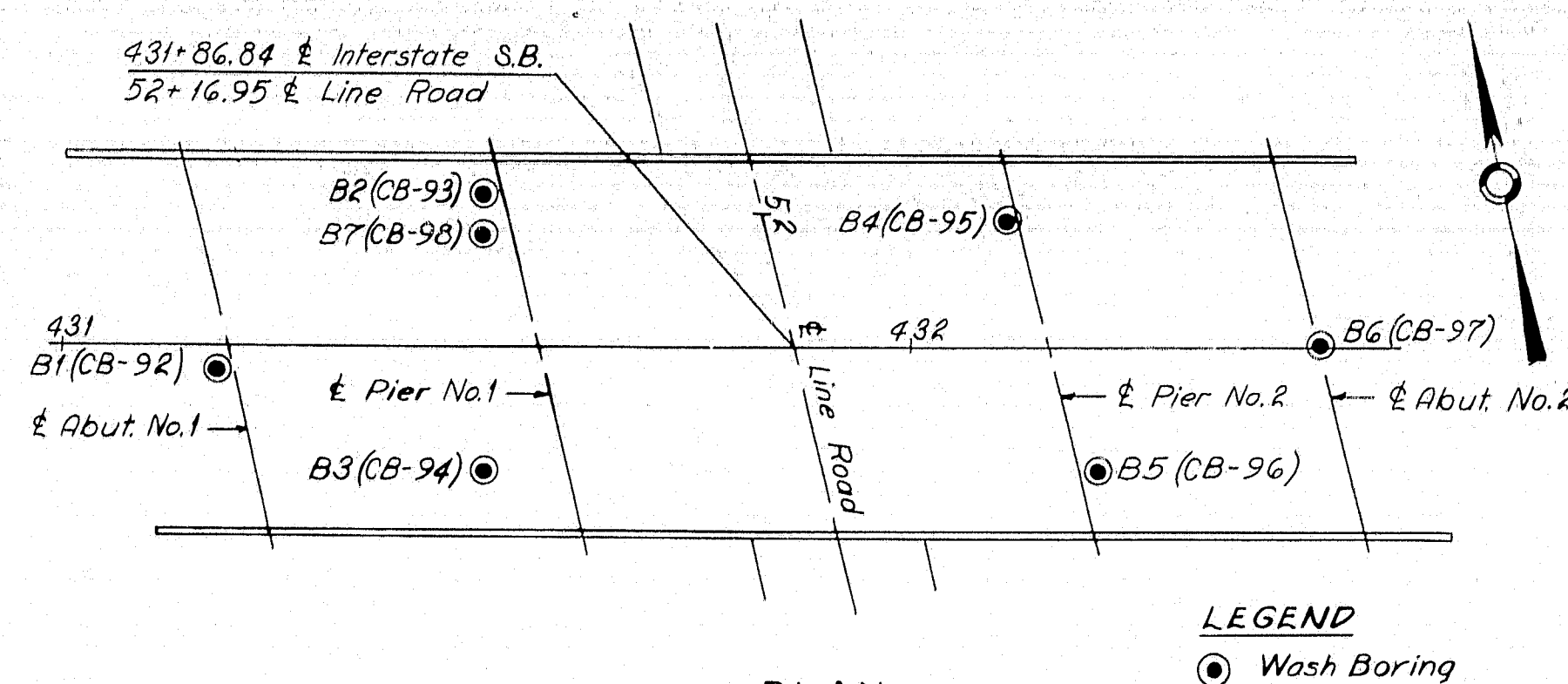
SECTION - INTERSTATE 95
1" = 10'

NOTES:

- All fill within the limits as shown on profile sheet #3 shall be placed by the controlled density method.
- Size of stone in granular borrow through which abutment piles are driven should not exceed 6" inches and concentrations of stones in the area shall be avoided.
- Place granular borrow to elevation of abutment footing before driving piles.

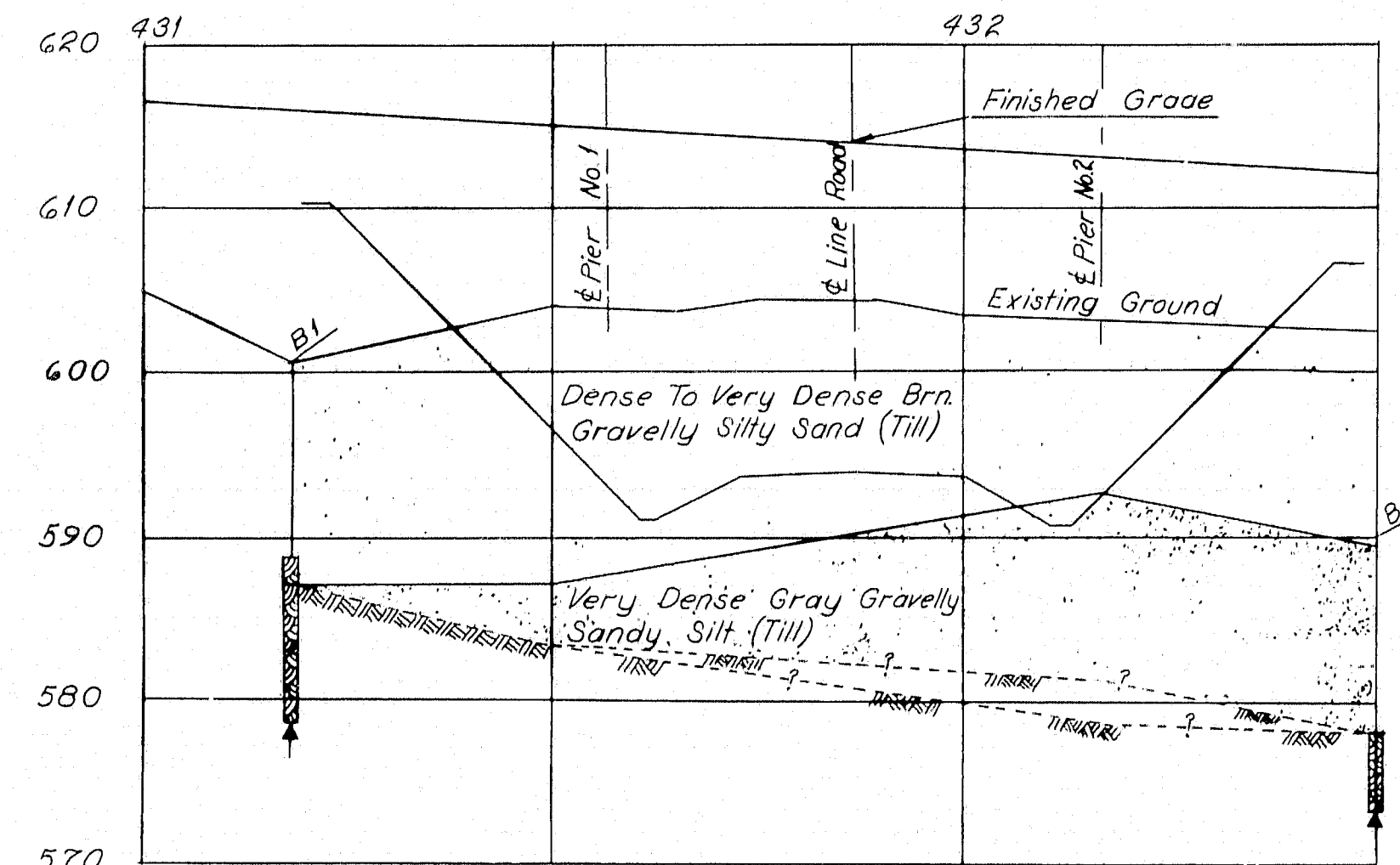
DESIGN - I.S. TRACE - P.R.N.	DETAIL - M.R.K. SURVEY - PLOT -	BRIDGE NO. SURVEY - PLOT -
STATE HIGHWAY COMMISSION BRIDGE DIVISION INTERSTATE 95 OVER LINE ROAD IN THE TOWNS OF SMYRNA & LUDLOW AROSTOOK COUNTY GENERAL PLAN & QUANTITIES		
SHEET 2 OF 14 AUGUSTA, MAINE NOVEMBER, 1964		

95/131 SMYRNA LUDLOW (20)

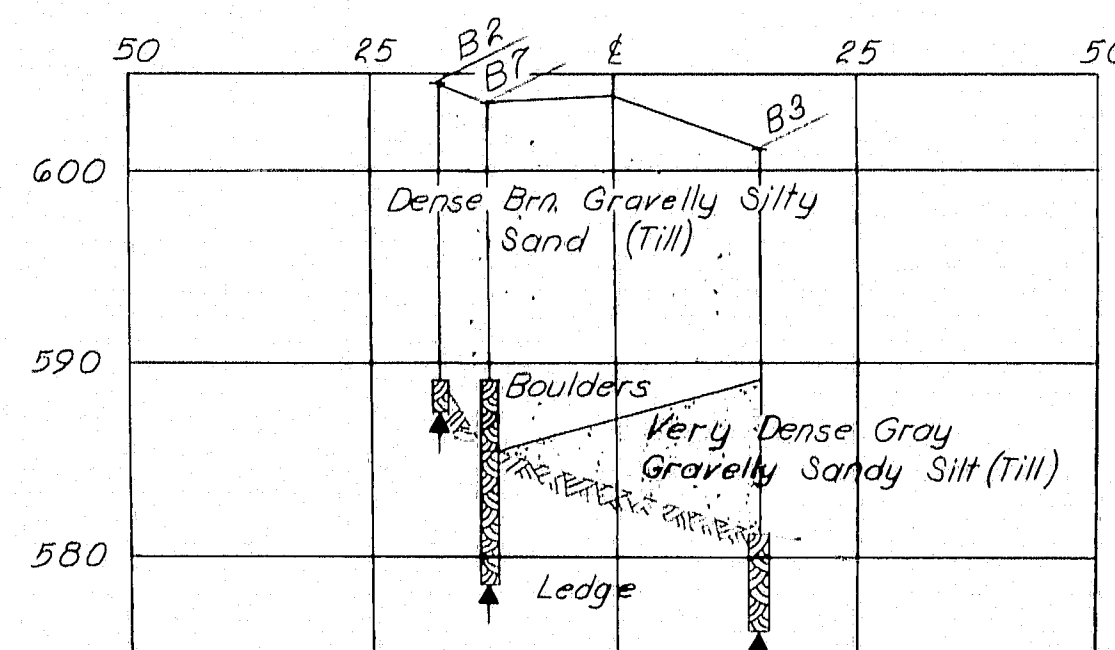


PLAN
1"=20'

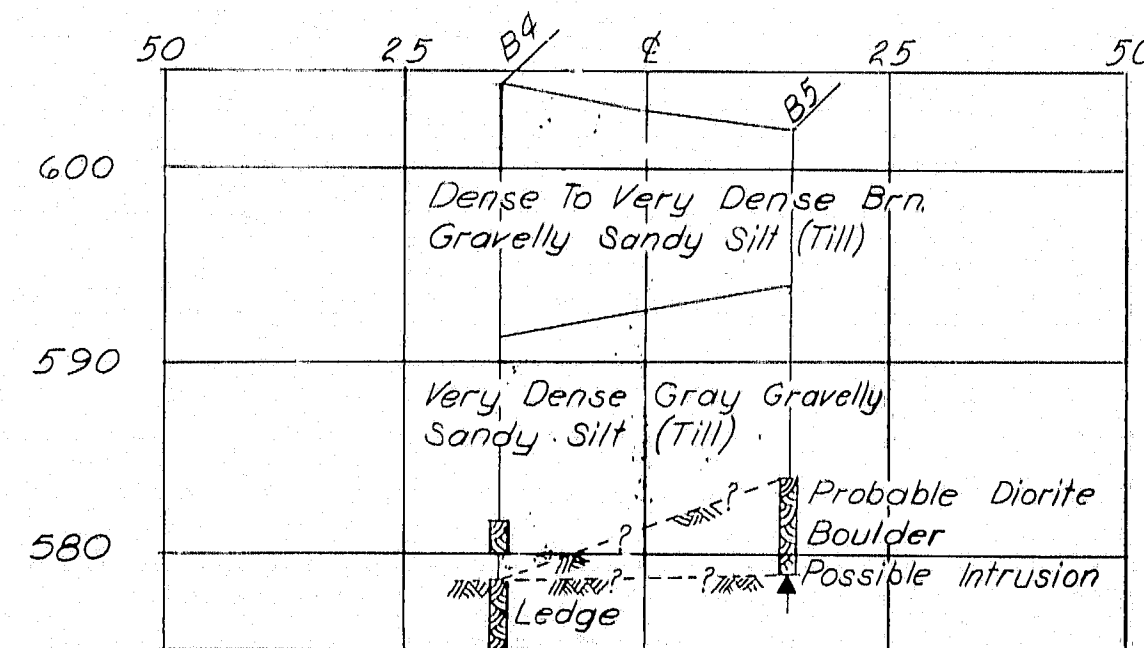
LEGEND
● Wash Boring



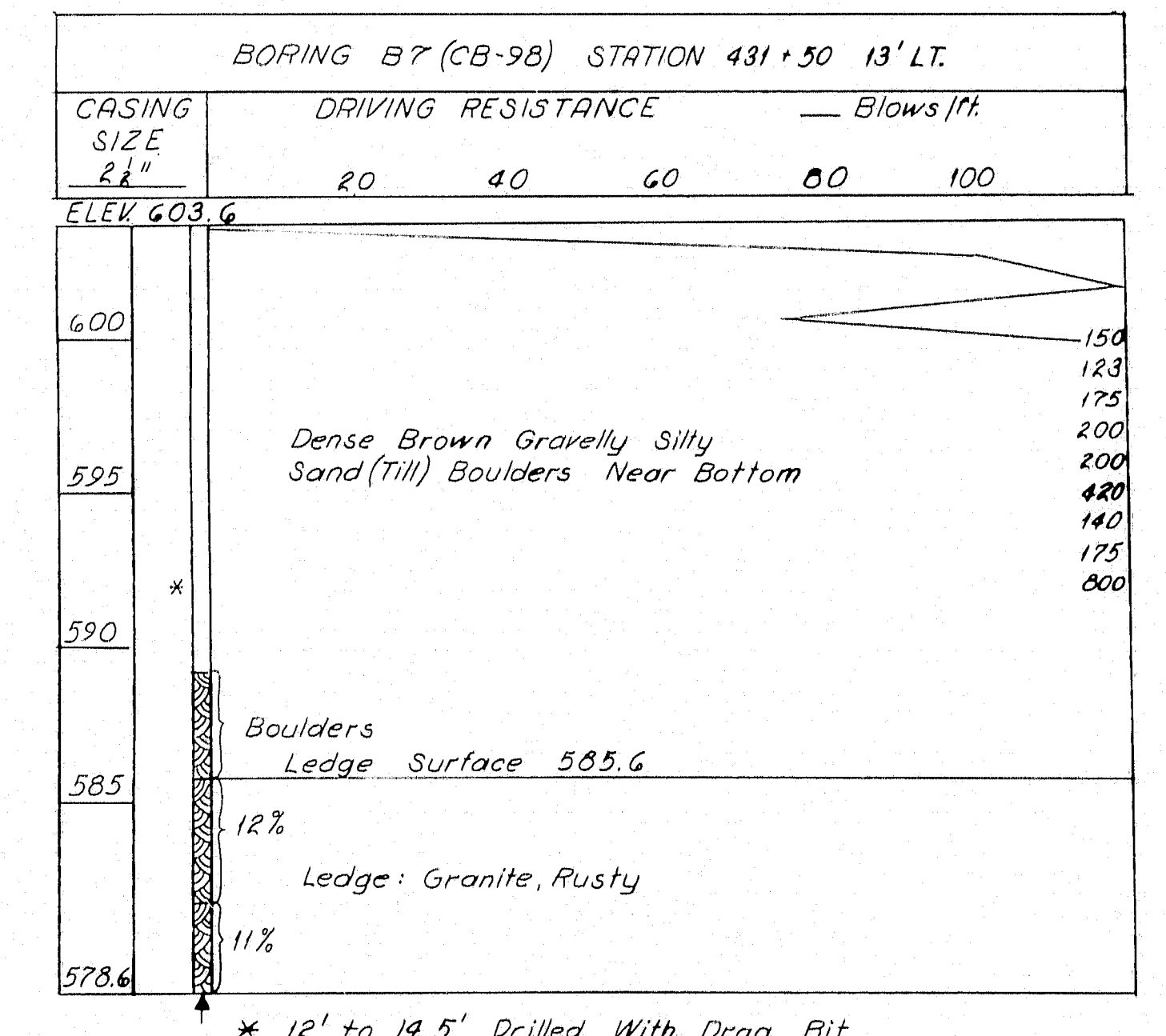
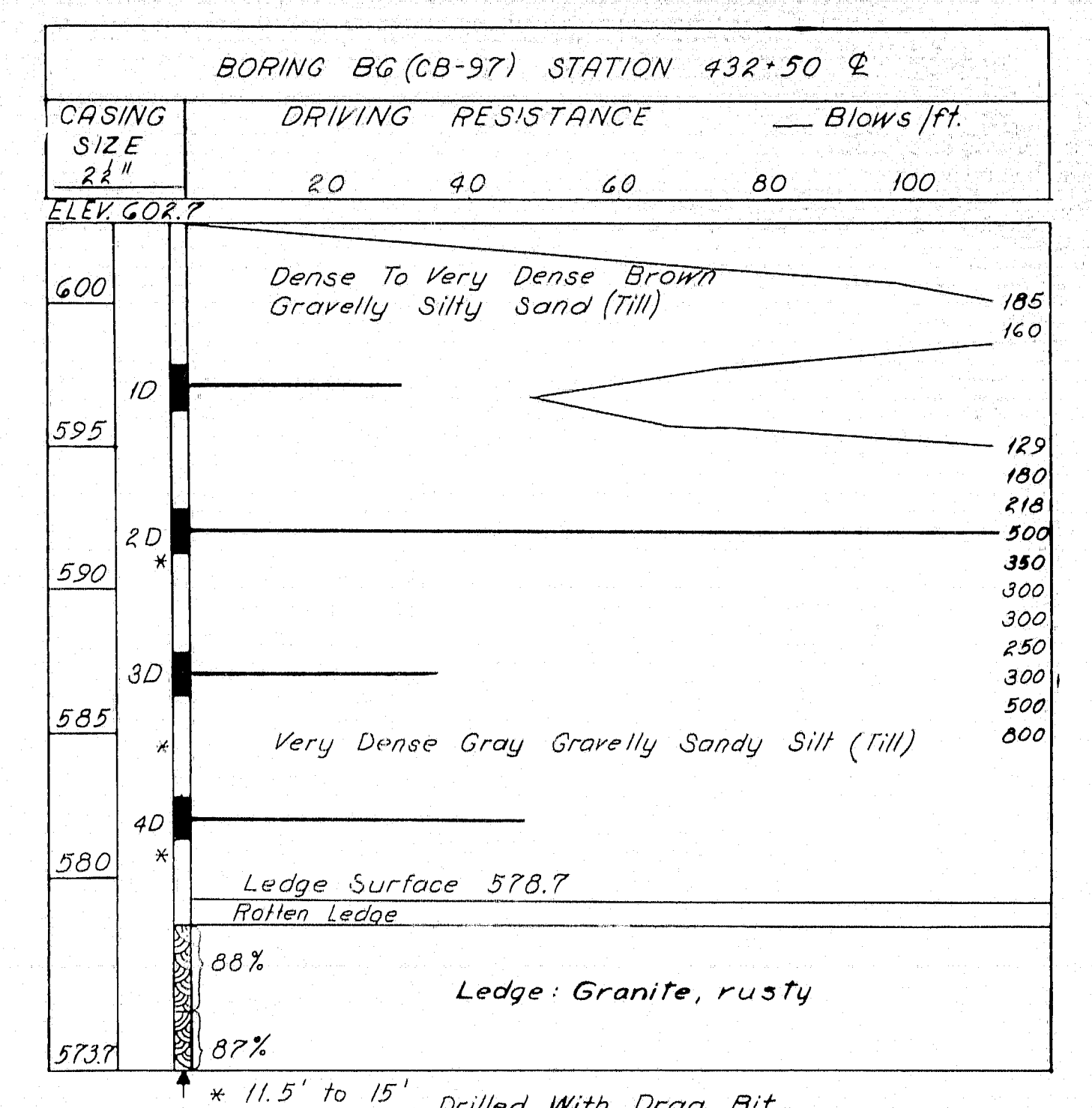
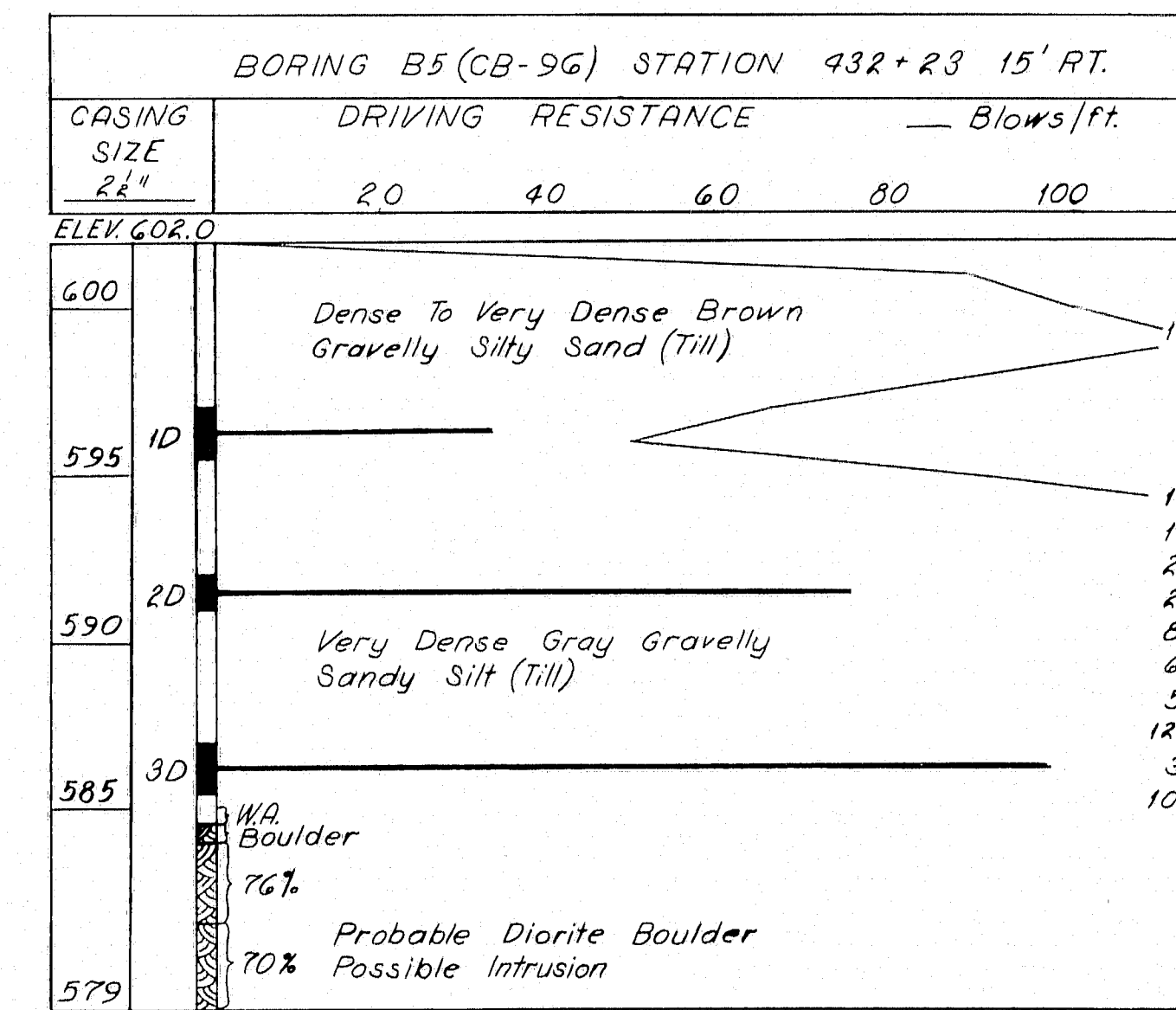
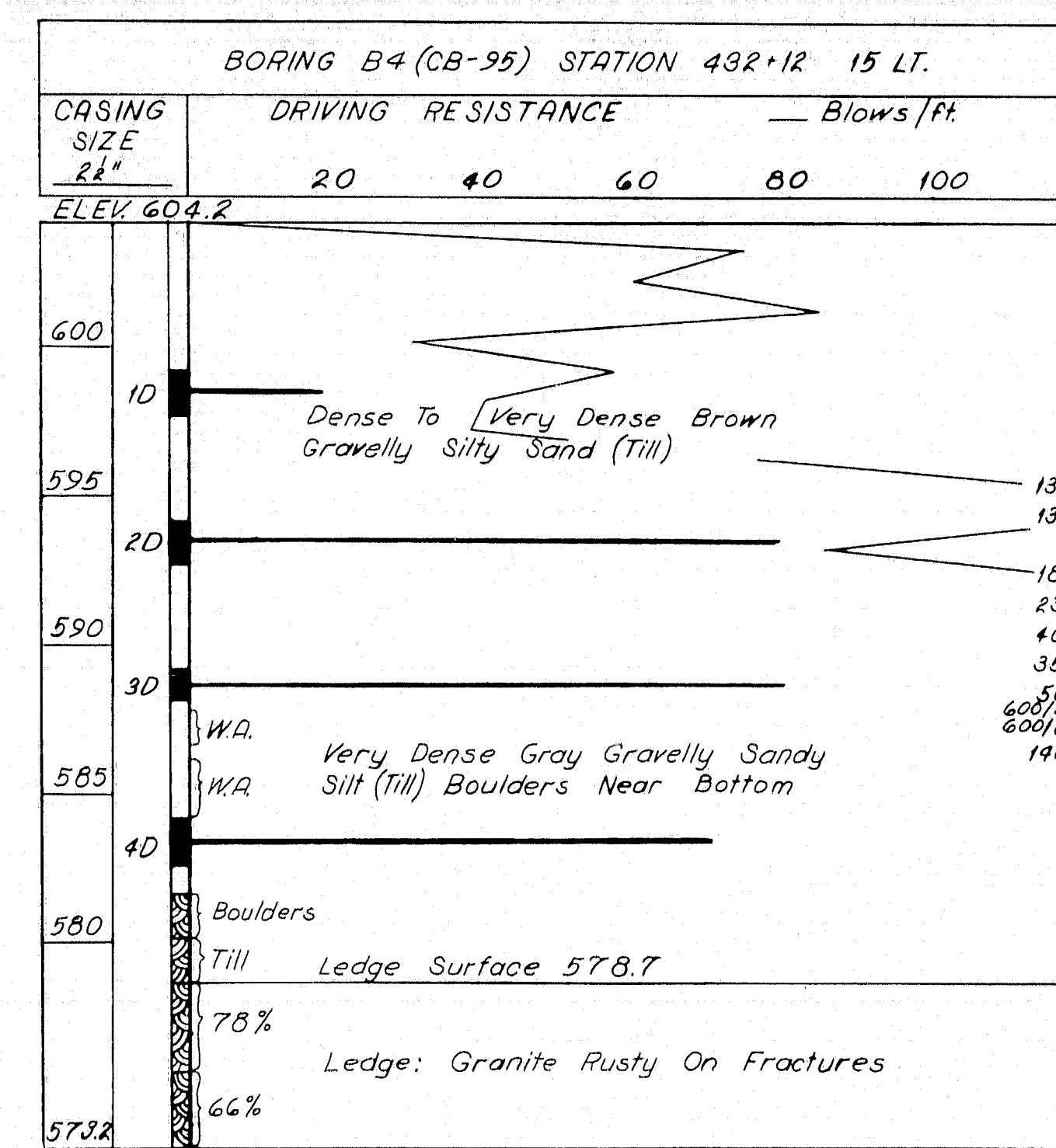
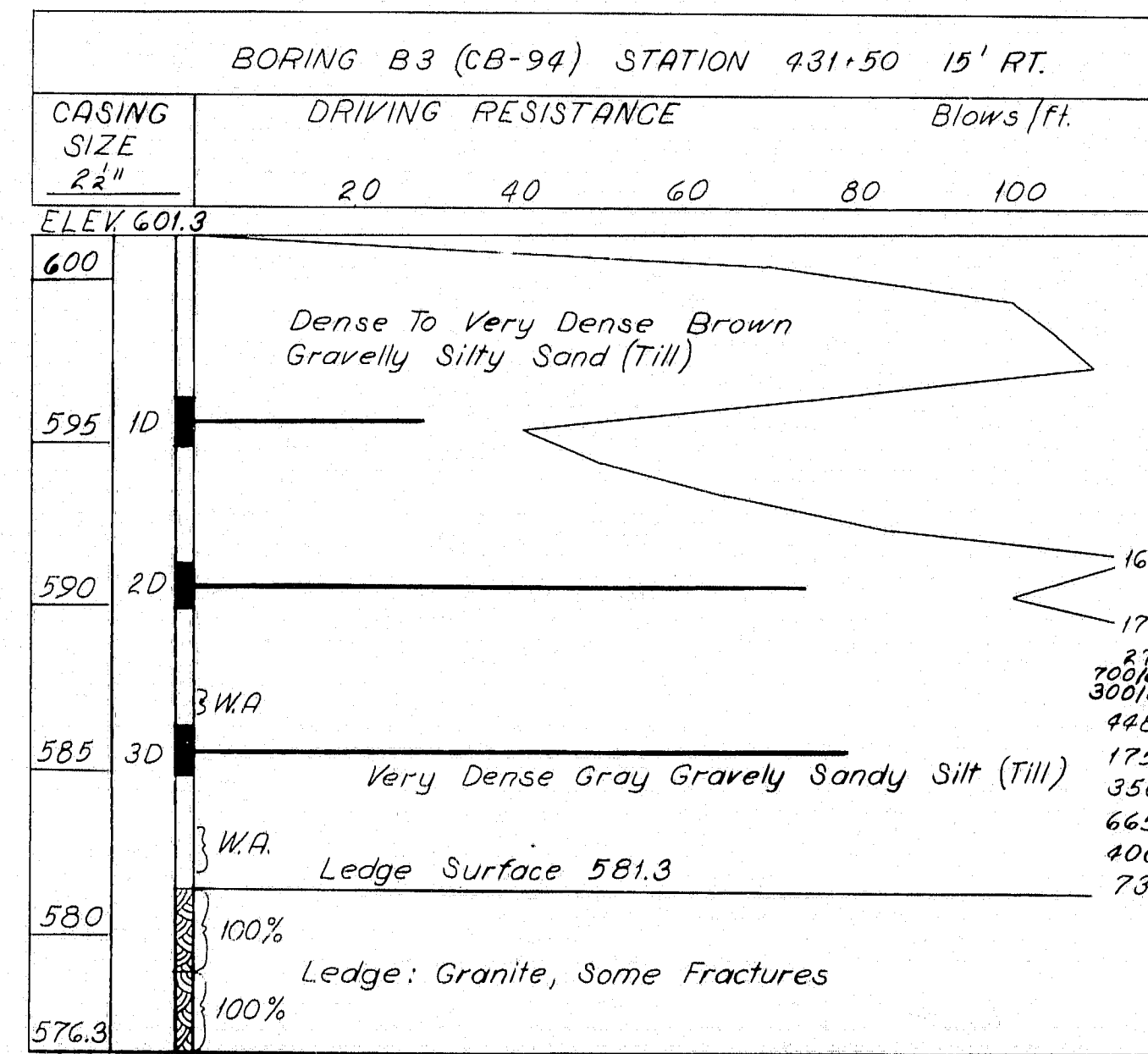
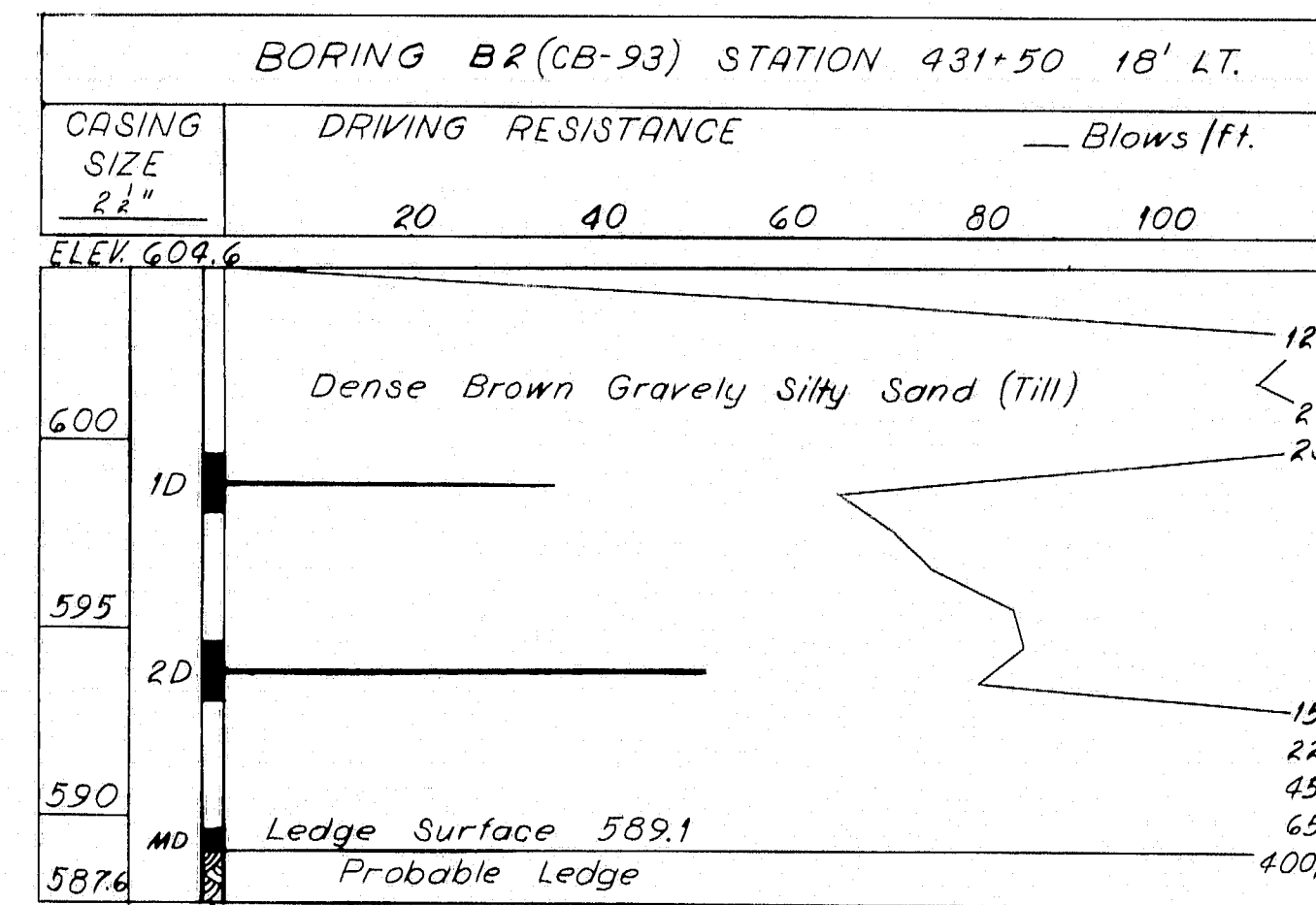
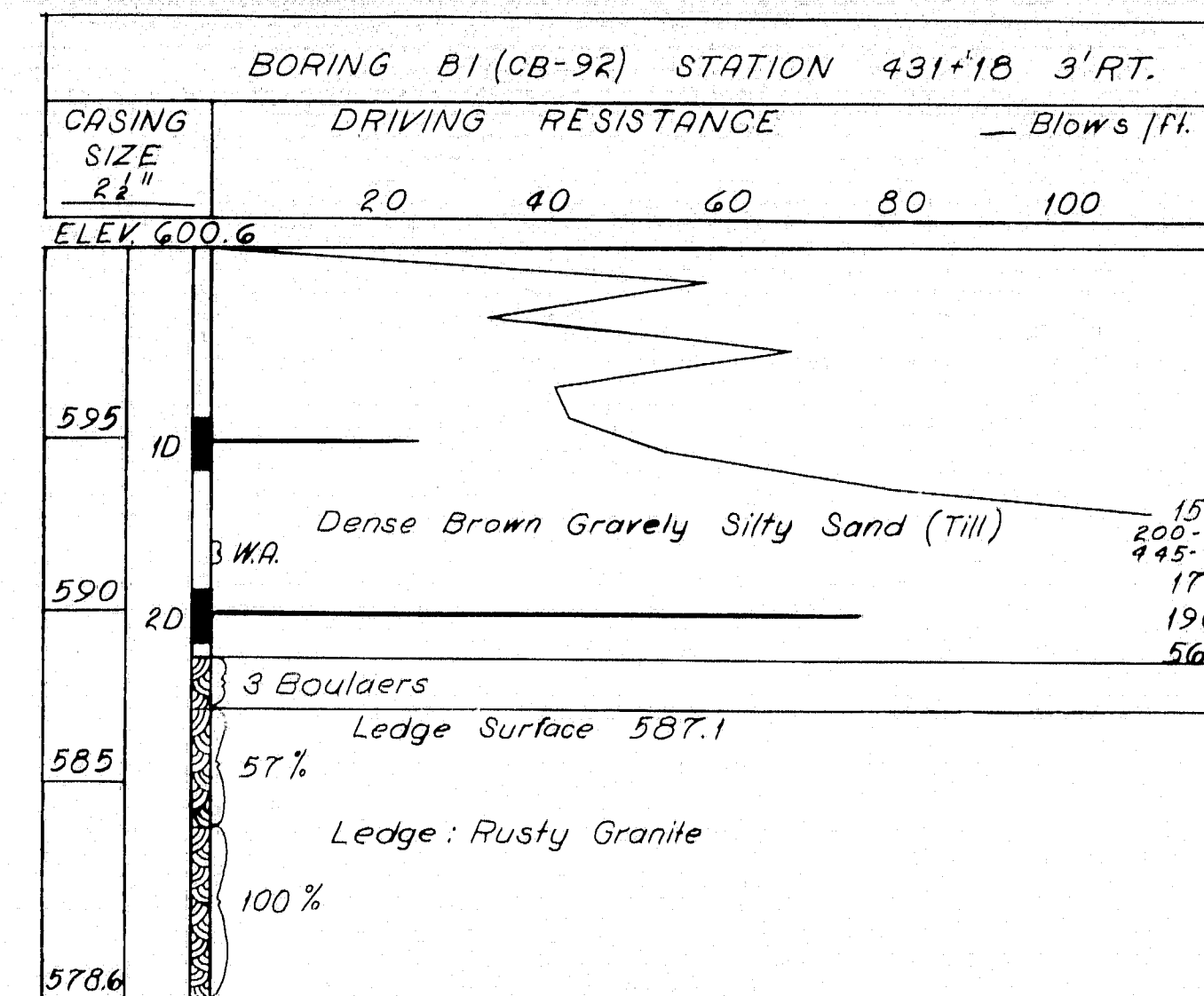
PROFILE
1"=20' Horiz.
1"=10' Vert.



STATION 431+50



STATION 432+17 SKEWED
TRANSVERSE SECTIONS



BORING NOTES:

- Number of blows required to drive extra heavy casing one foot with 400 ft. lbs. of energy per blow
- Location of sample or sample attempt
- S&H Sampler #1290's
- Bottom of boring (may not be bottom of soil strata)
- Locations cored by diamond bit and percent recovery of rock
- Number of blows required to drive spoon or tubing one foot with 350 ft. lbs. of energy per blow
- Unsuccessful sample attempt and type of sampler.
- MD Washed ahead
- WA

NOTE:

Attention is called to the fact that ground water may be encountered during excavation.

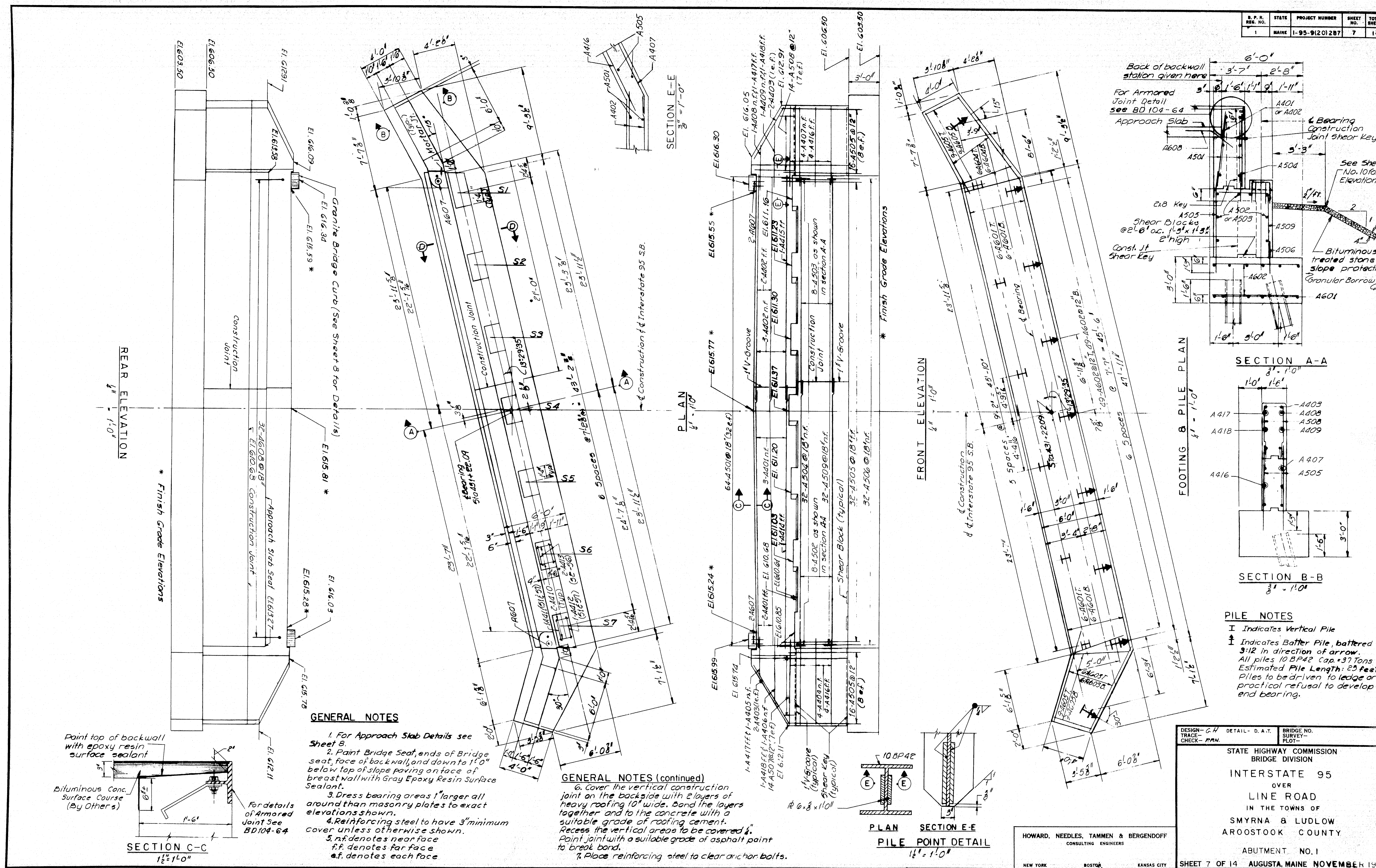
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS

NEW YORK BOSTON KANSAS CITY

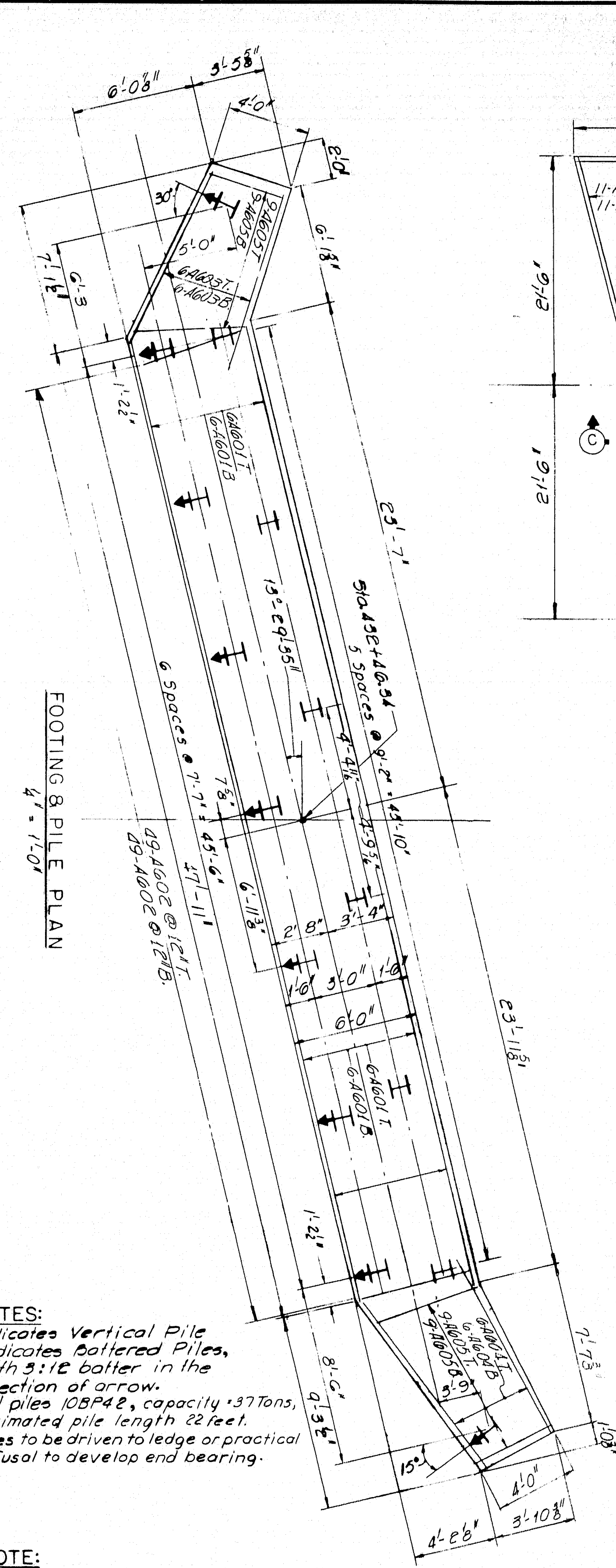
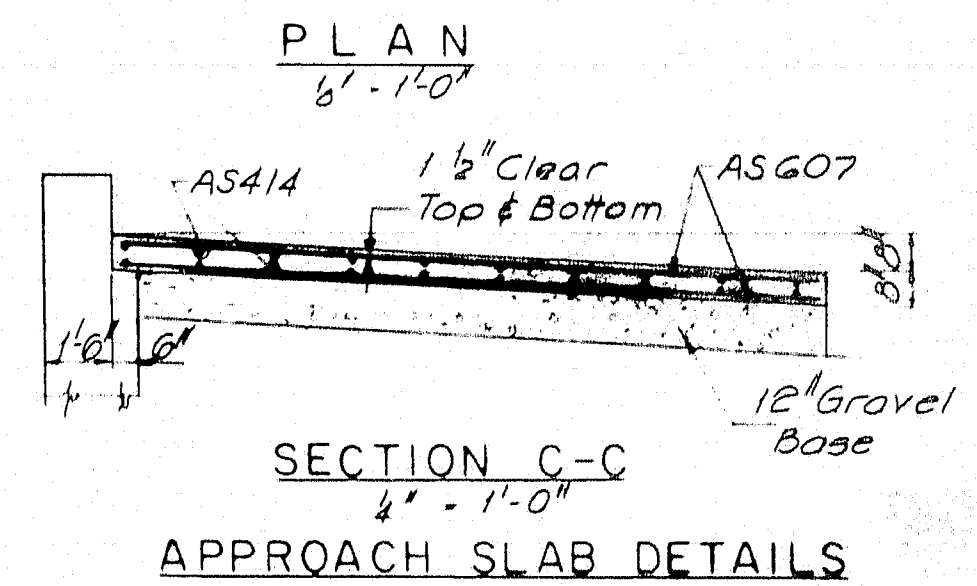
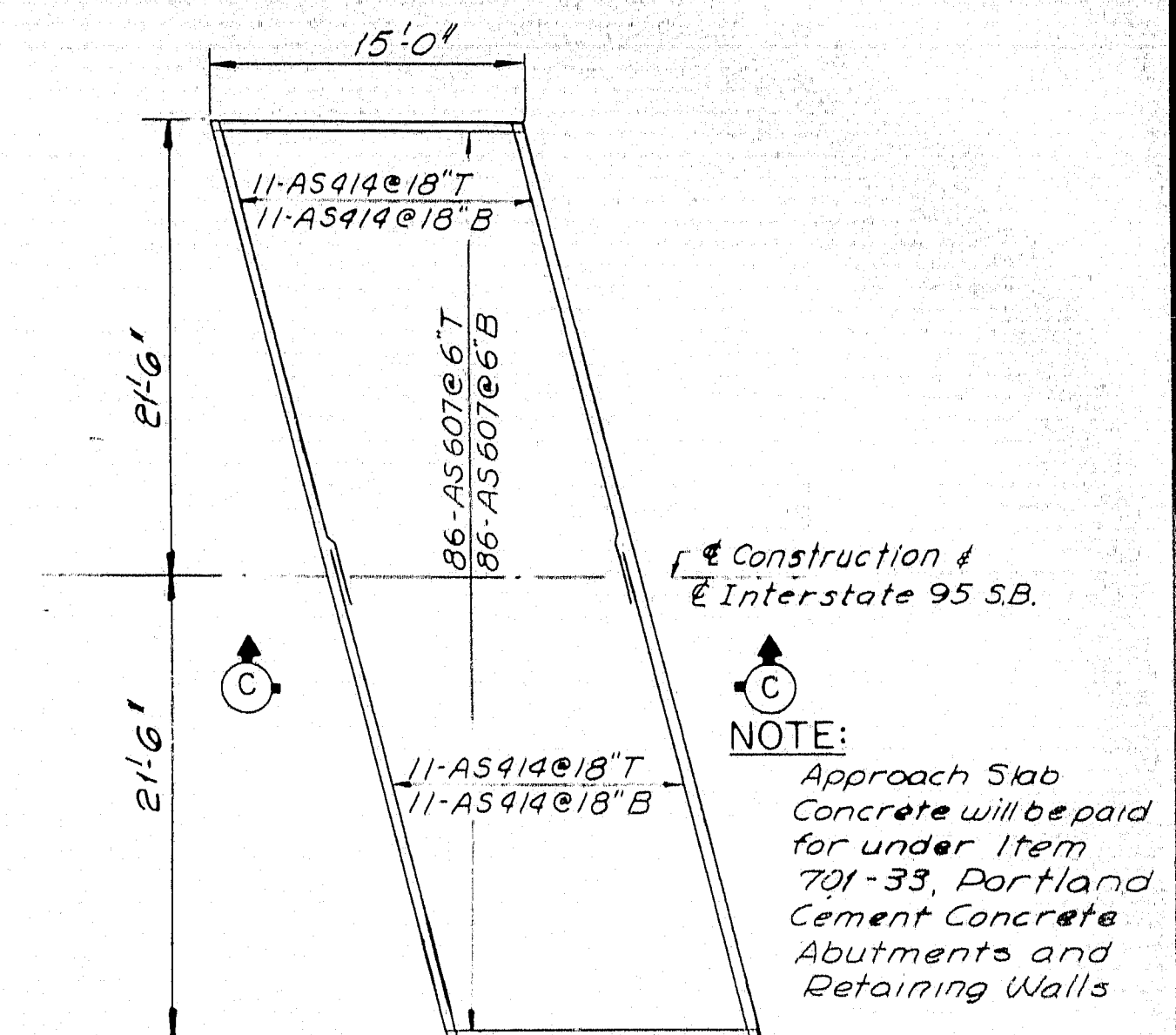
DESIGN-TRACE-CHECK-PR.N
DETAIL-R.P.K.
BRIDGE NO. SURVEY- PLOT-
STATE HIGHWAY COMMISSION
BRIDGE DIVISION
INTERSTATE 95
OVER
LINE ROAD
IN THE TOWNS OF
SMYRNA AND LUDLOW
AROSTOOK COUNTY
FOUNDATION SURVEY

SHEET 6 OF 14 AUGUSTA, MAINE NOVEMBER 1964

95-132 SMYRNA LUDLOW (20)



B. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	1-95-9(20)287	8	14



- PILE NOTES:
1. I Indicates Vertical Pile
 2. B Indicates Battered Piles, with 5:12 batter in the direction of arrow.
 3. All piles 108P42, capacity 137 tons.
 4. Estimated pile length 22 feet.
 5. Piles to be driven to ledge or practical refusal to develop end bearing.

NOTE:
For General Notes and Sections A-A, B-B, D-D and E-E see Sheet 7.

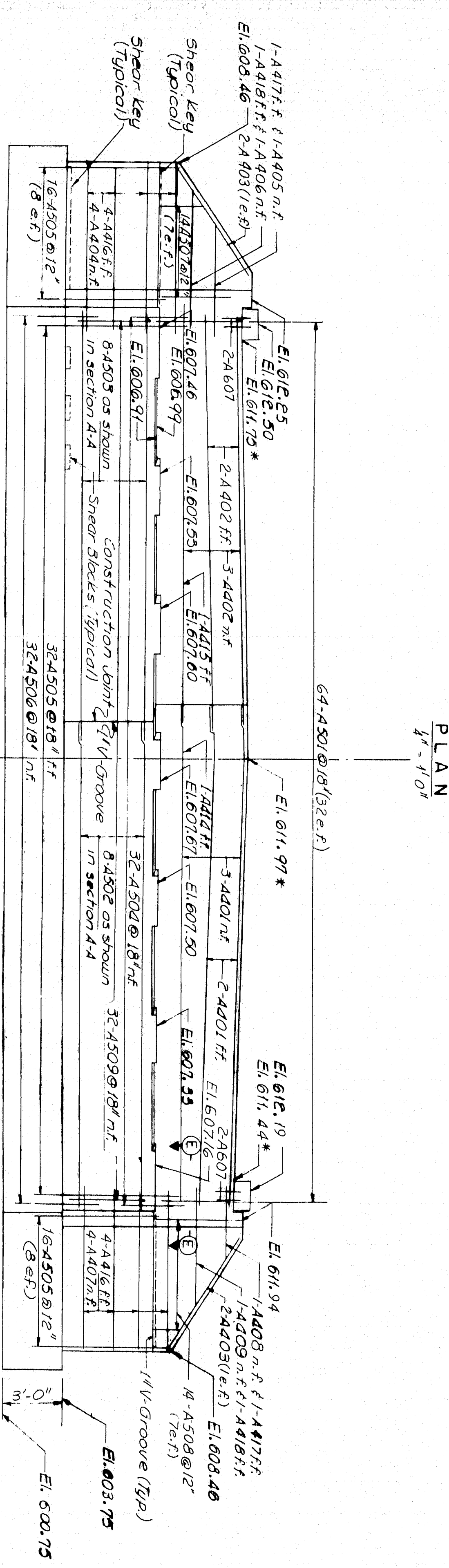
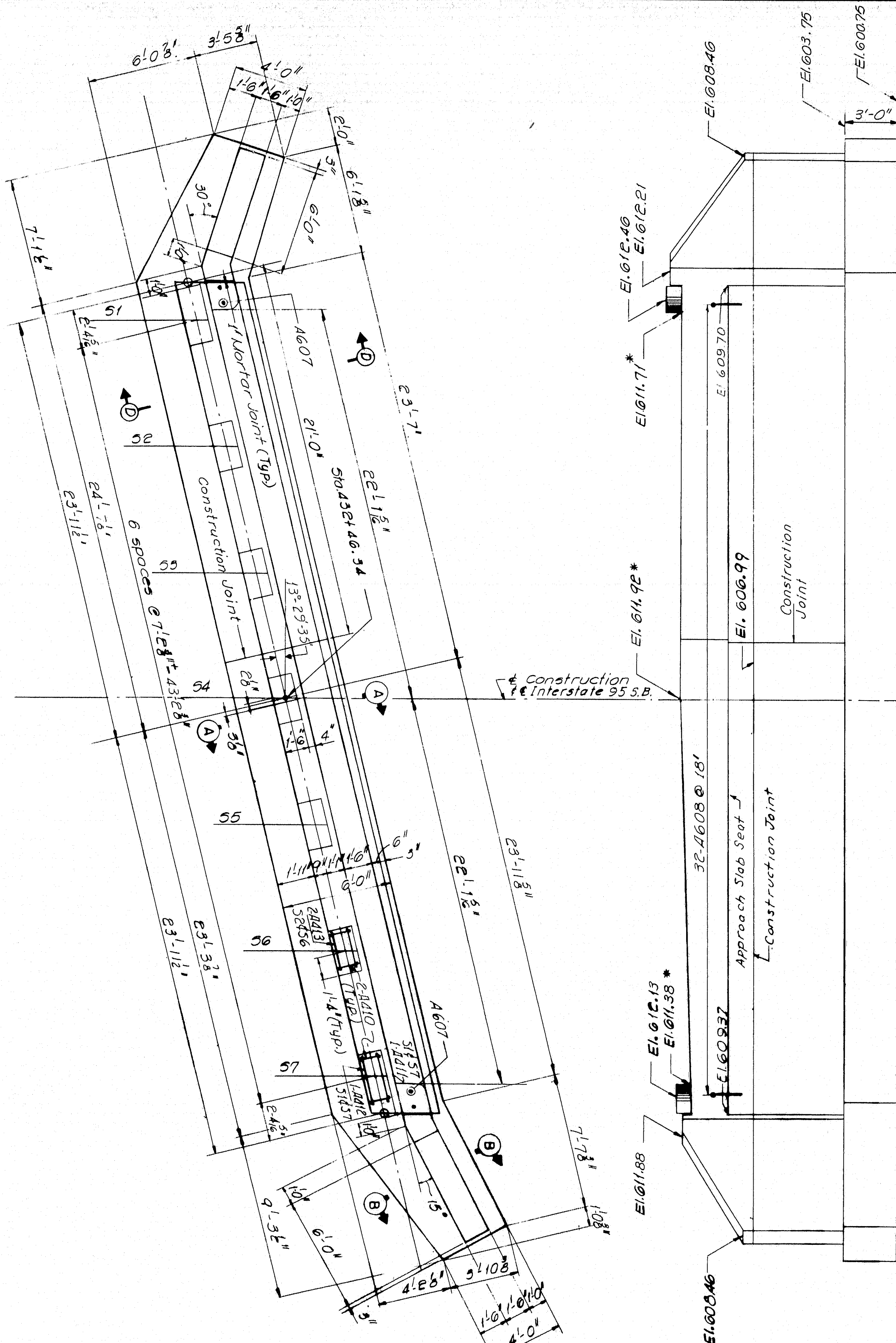
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
NEW YORK BOSTON KANSAS CITY

DESIGN- G.H. DETAIL D.A.T.
TRACE-
CHECK- P.R.N.

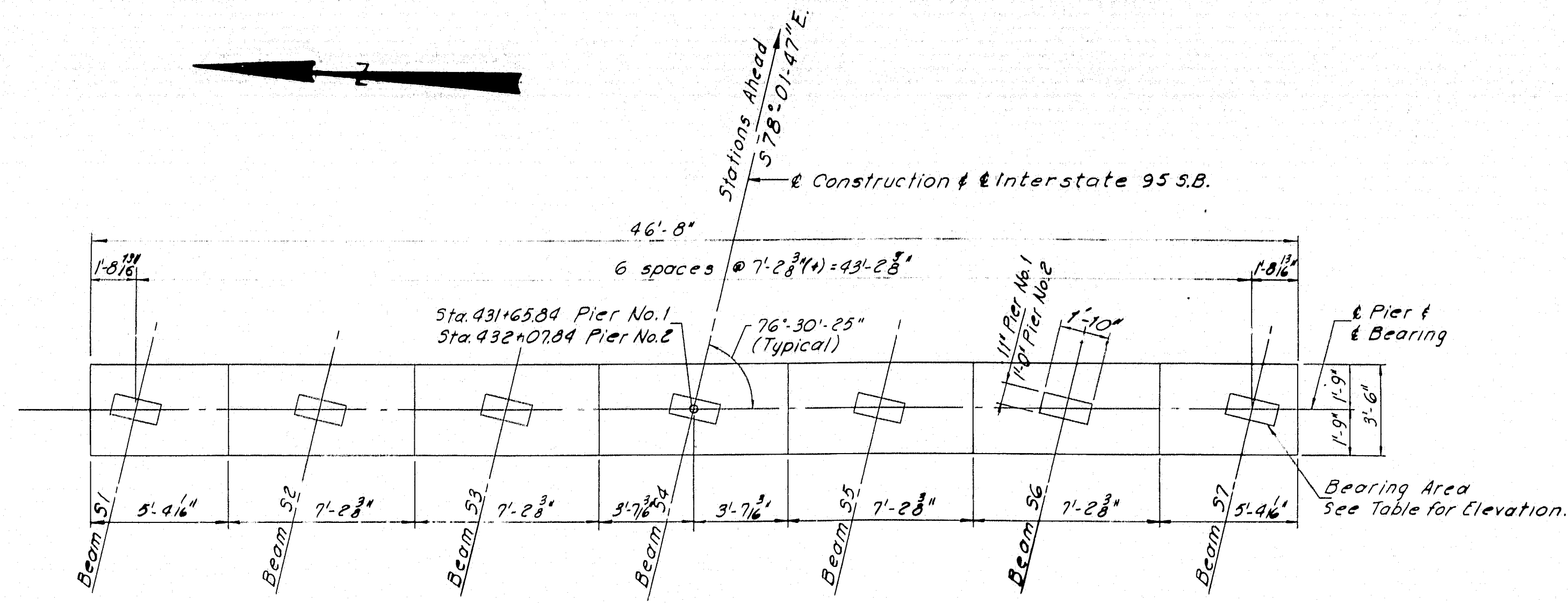
BRIDGE NO.
SURVEY-
PLOT-

STATE HIGHWAY COMMISSION
BRIDGE DIVISION
INTERSTATE 95
OVER
LINE ROAD
IN THE TOWNS OF
SMYRNA & LUDLOW
AROSTOOK COUNTY
ABUTMENT NO. 2

SHEET 8 OF 14 AUGUSTA, MAINE NOVEMBER 1964

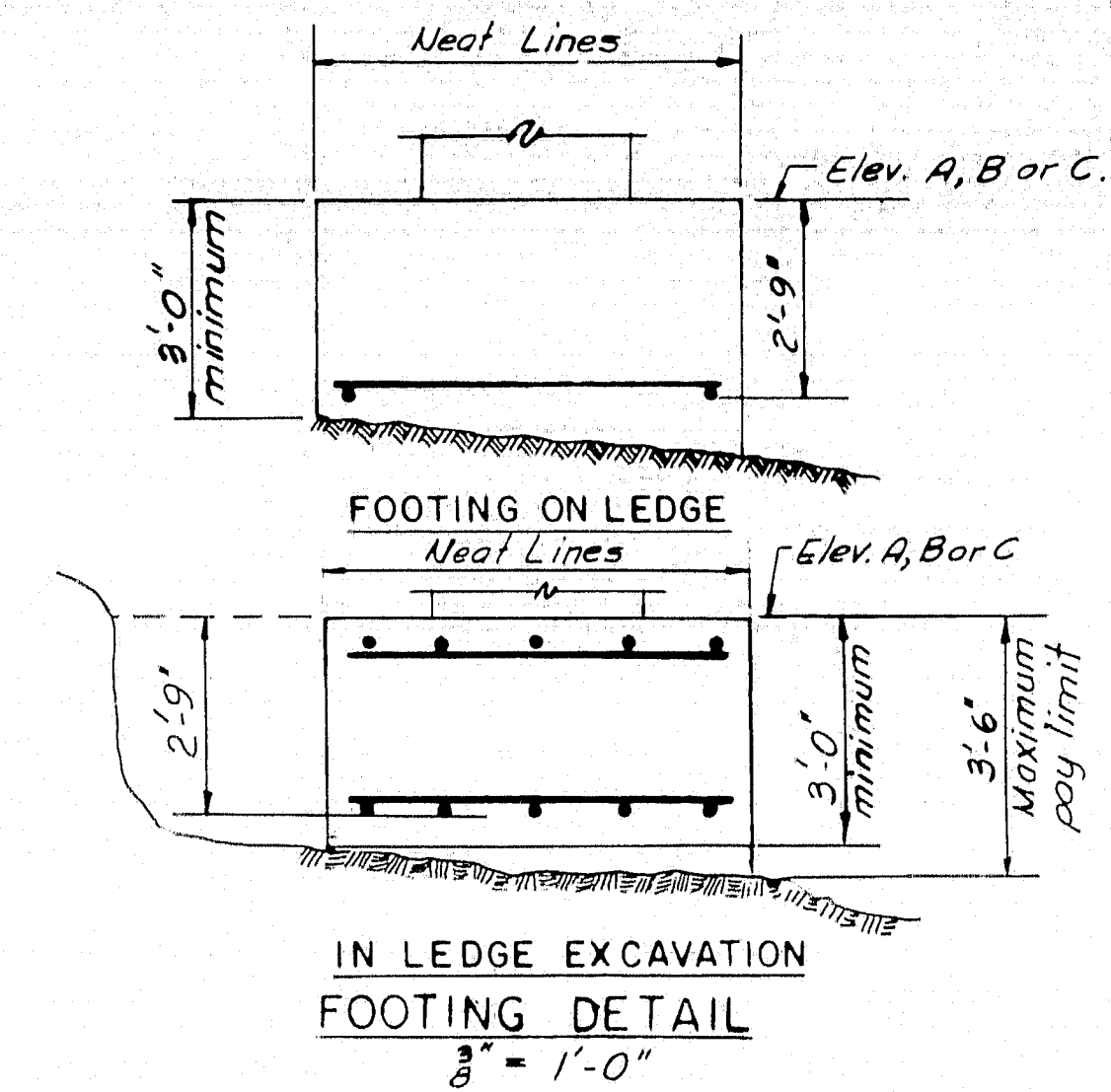


0 1 2 3 4 5 INCHES



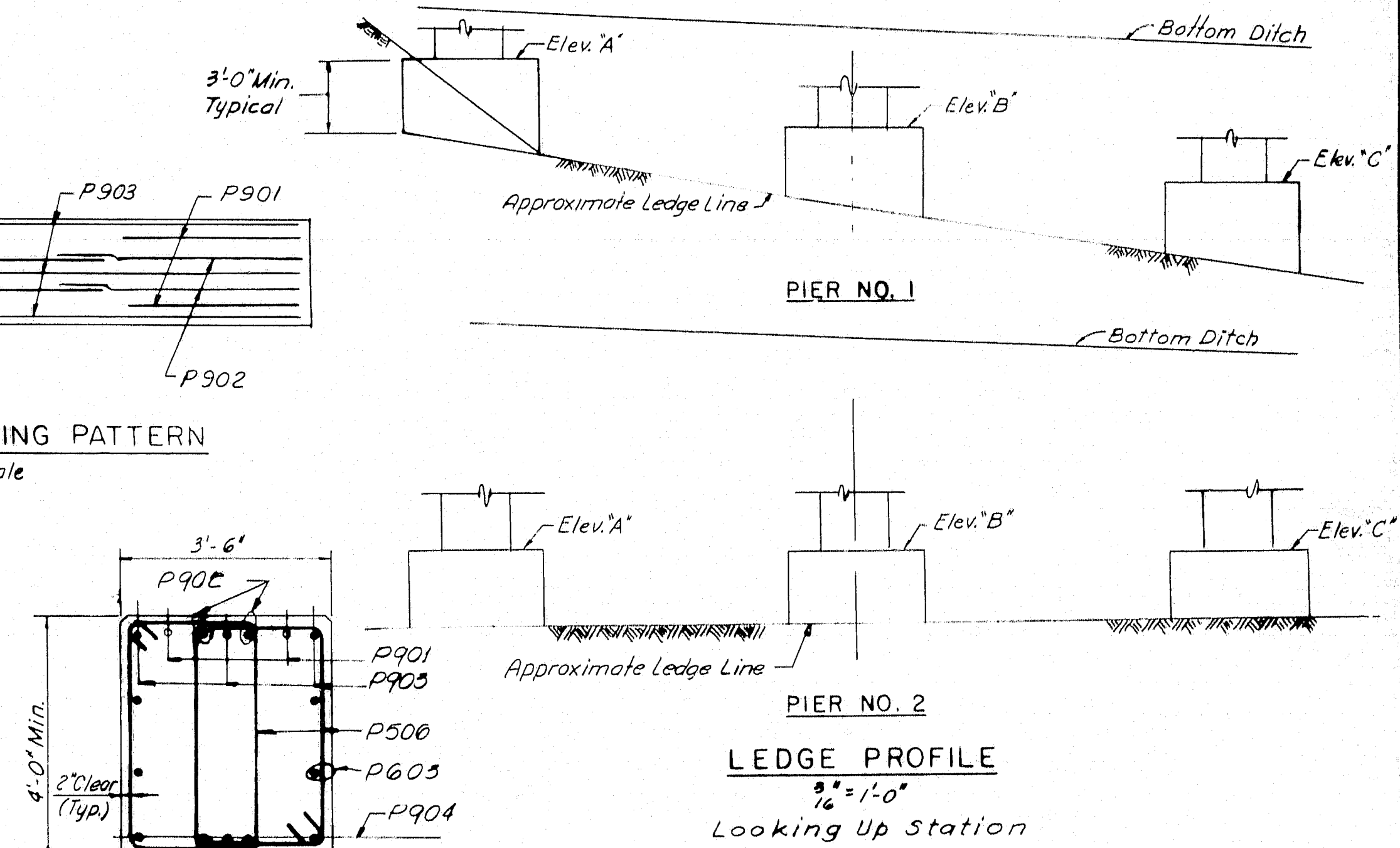
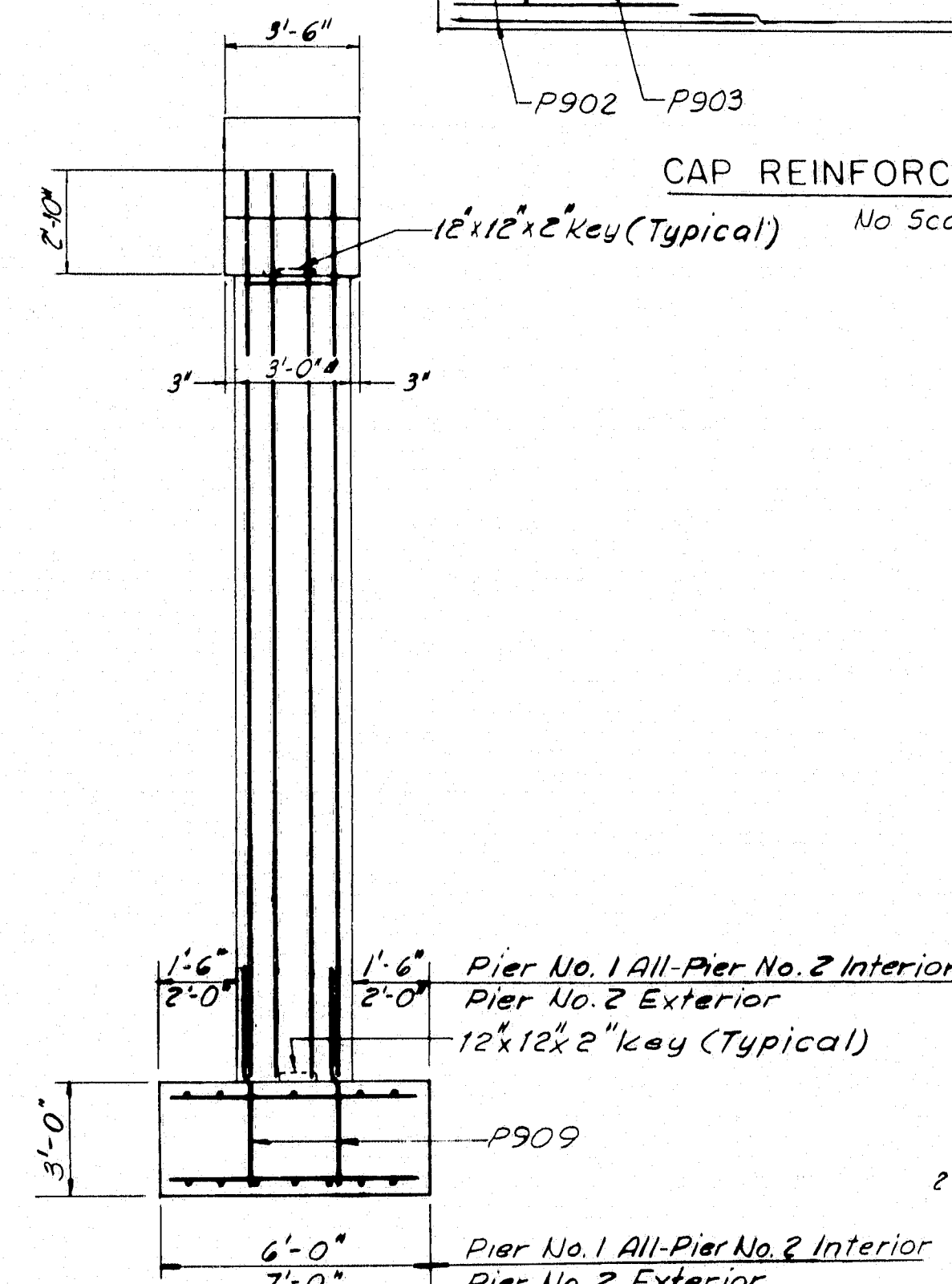
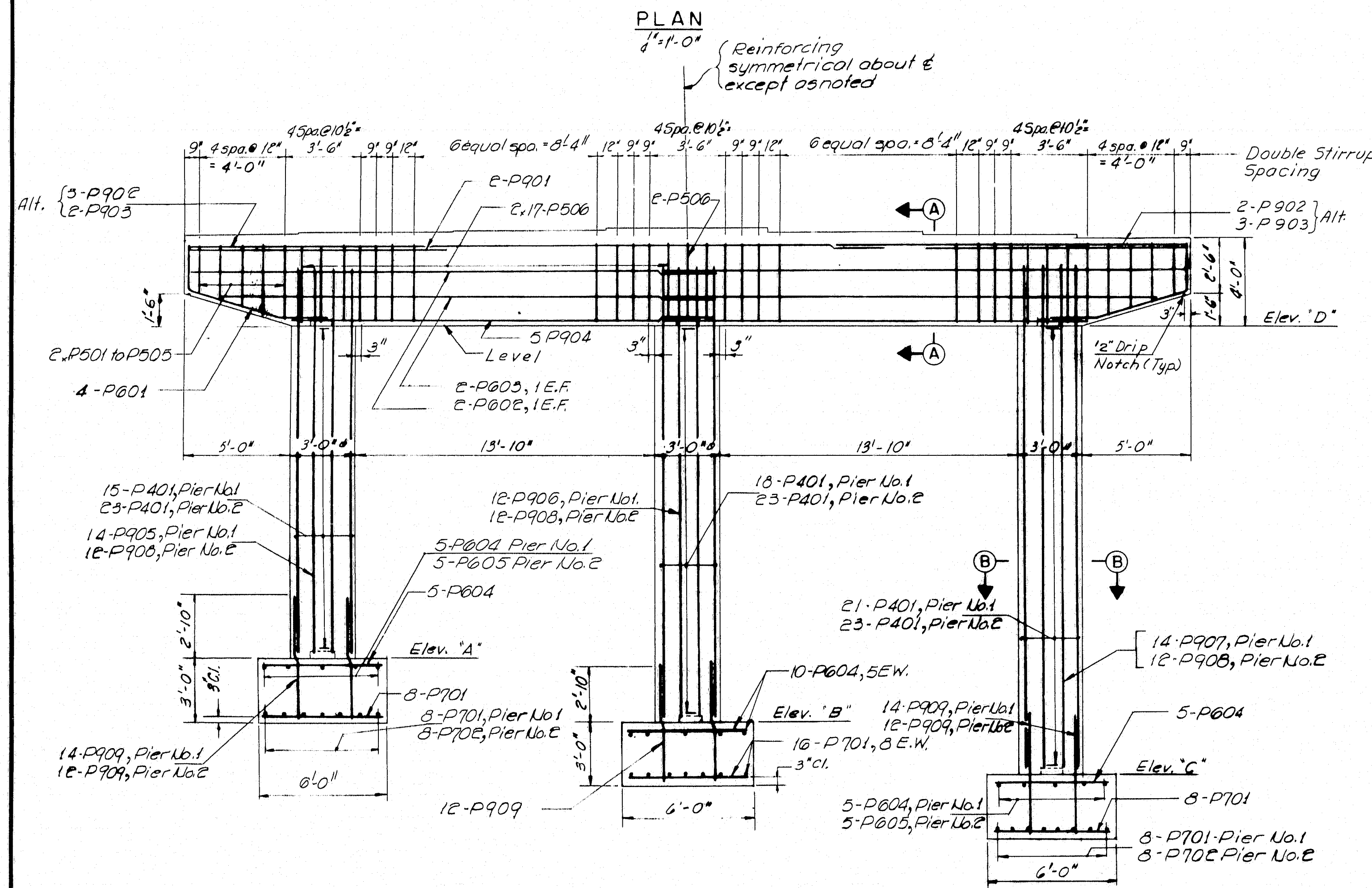
BEARING	PIER 1	PIER 2
51	609.64	608.75
52	609.71	608.82
53	609.78	608.89
54	609.86	608.96
55	609.68	608.79
56	609.51	608.62
57	609.34	608.45

ELEVATION	PIER 1	PIER 2
A	588.68	581.26
B	583.24	582.10
C	584.30	586.07
D	605.34	604.45



NOTES

- In ledge excavation, footing side forms may be omitted if approved by the Engineer. No payment will be made for concrete outside the neat lines shown.
- In case of overbreakage of ledge downward, no payment will be made for Structural Rock Excavation Piers; or for concrete more than 3'-6" below top of footing elevation shown.
- All weathered or broken ledge shall be removed before any footing concrete is placed.



NOTES

- Reinforcing steel to have 2" cover unless otherwise shown.
- Maximum Footing Pressures:
Loading Group I 4.2 Tons/S.F.
Loading Group VII 9.2 Tons/S.F. CRITICAL
- E.F. Each Face
- E.W. Each Way
- Top of footing elevation may be altered to suit field conditions. No change in top of footing elevations greater than two feet shall be made without approval of the consulting engineer.
- Dress bearing areas 1" larger all around than masonry plates to exact elevations shown.

SECTION B-B
EXT. COLS. PIER NO. 1
1/4" = 1'-0"

SECTION B-B
INT. COL. PIER NO. 1
ALL COLS. PIER NO. 2
1/4" = 1'-0"

END ELEVATION
1/4" = 1'-0"

NOTE
Reinforcing shown is typical for each Pier unless otherwise noted.

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS

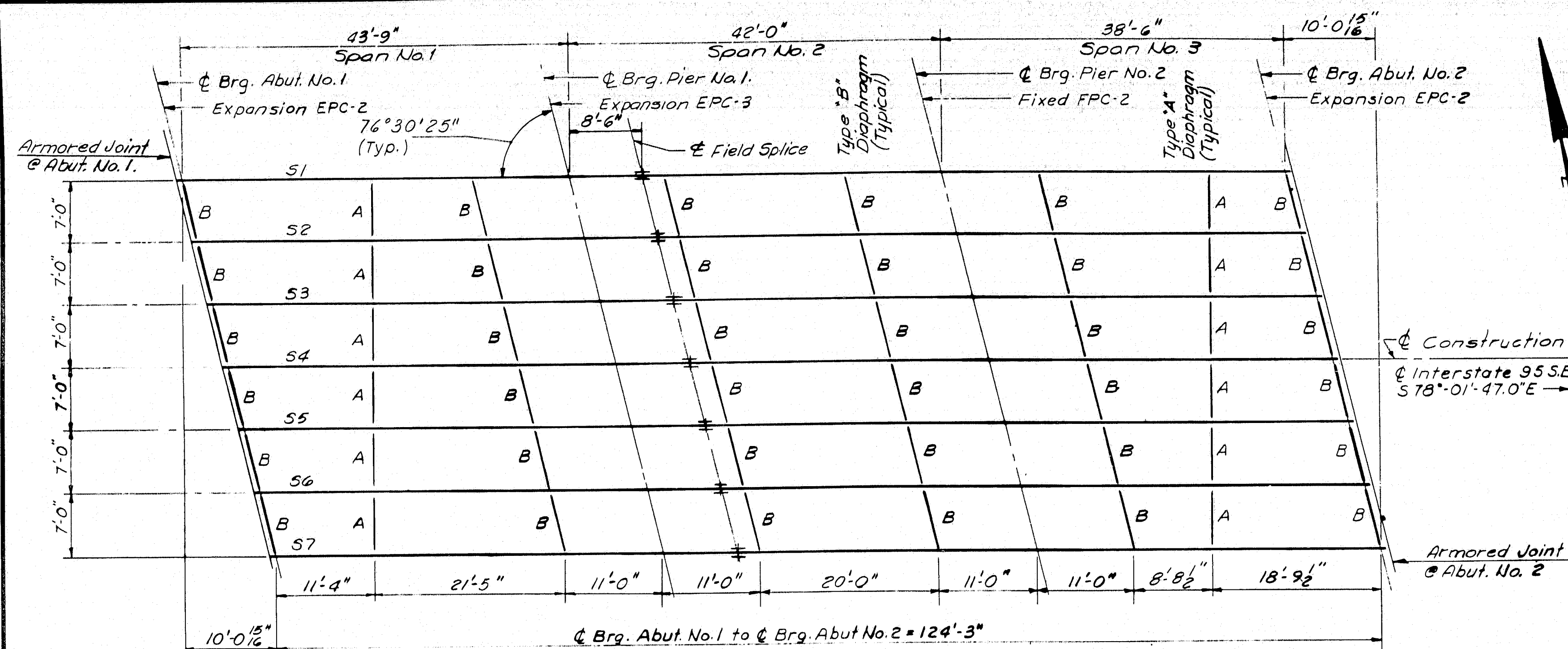
NEW YORK BOSTON KANSAS CITY

DESIGN - G.H. TRACE - PR.N.
DETAIL - J.M.S.
BRIDGE NO. SURVEY - PLOT -
STATE HIGHWAY COMMISSION
BRIDGE DIVISION
INTERSTATE 95
OVER
LINE ROAD
IN THE TOWNS OF
SMYRNA & LUDLOW
ARROOSTOOK COUNTY
PIERS

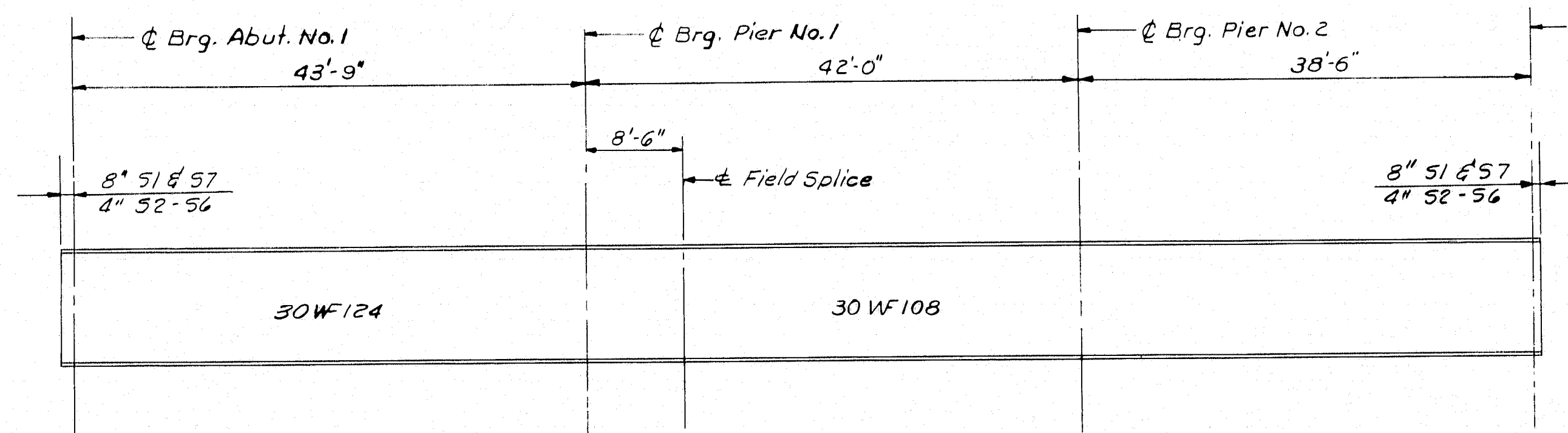
SHEET 9 OF 14 AUGUSTA, MAINE NOVEMBER 1964

95-135

SMYRNA LUDLOW (20)

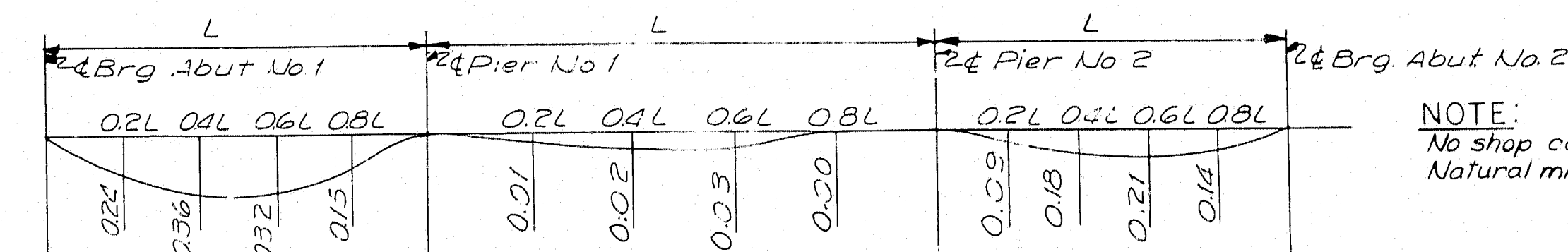


BRIDGE DRAIN NOTES:
Two bridge drains on each side Span 1 & 3. Drains shall be placed so they are at least 10'-0" from Piers, exact position to be determined in field. For approximate location see sheet 2.



TYPICAL STRINGER ELEVATION
All Dimensions Are Horizontal

PEDESTALS
14 EPC-2 Required
7 EPC-3 Required
7 FPC-2 Required



DEAD LOAD DEFLECTION DIAGRAM
ALL DEFLECTIONS IN INCHES

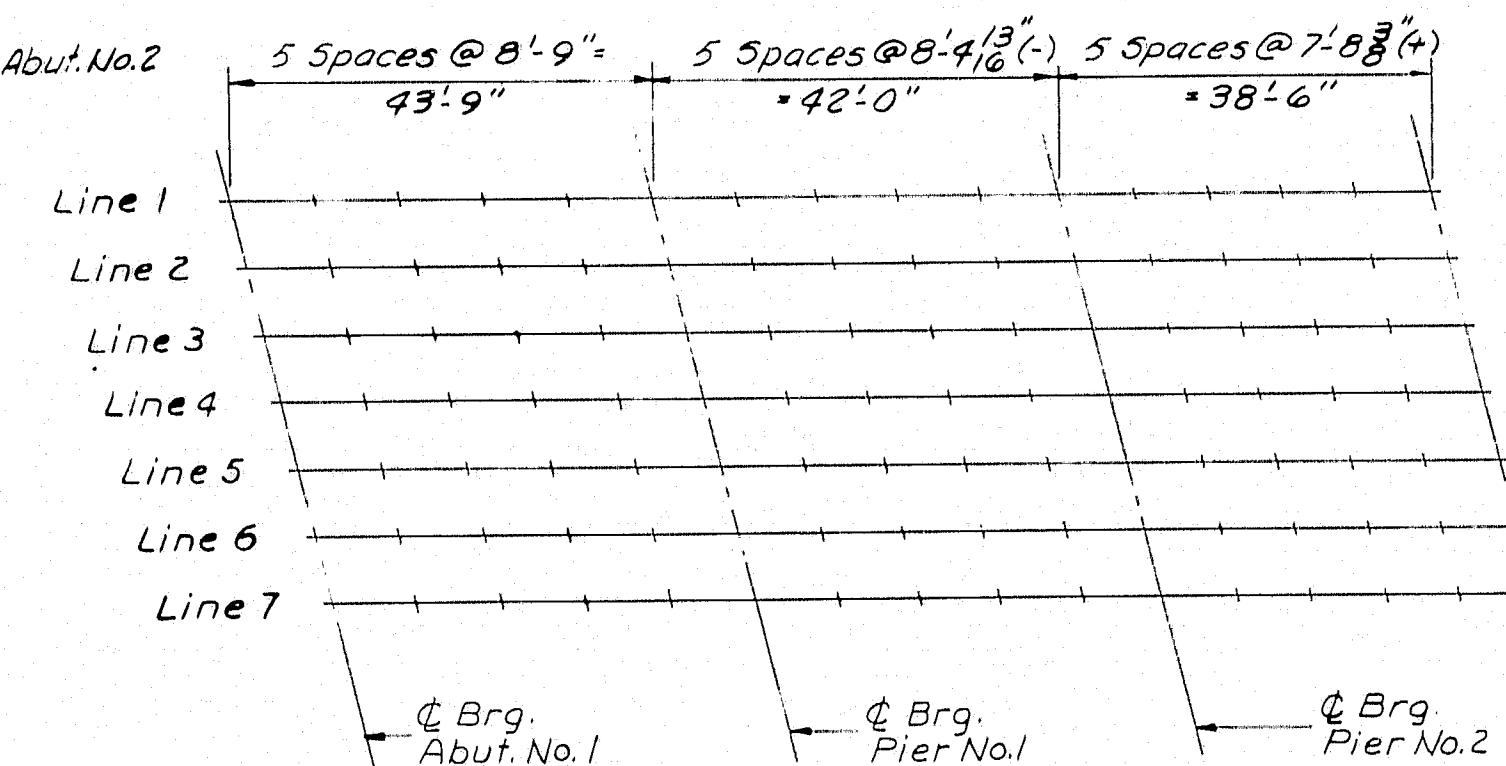
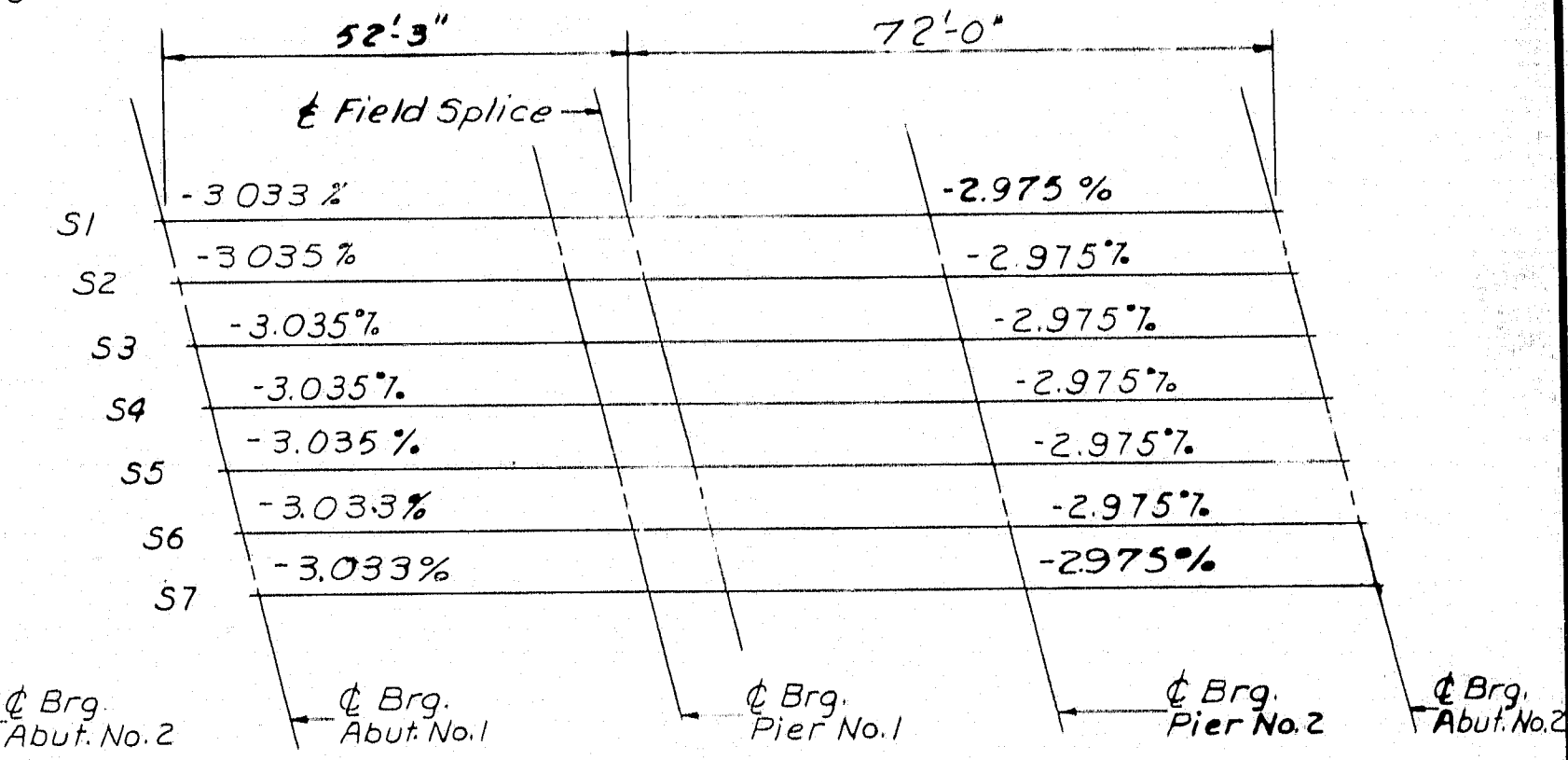


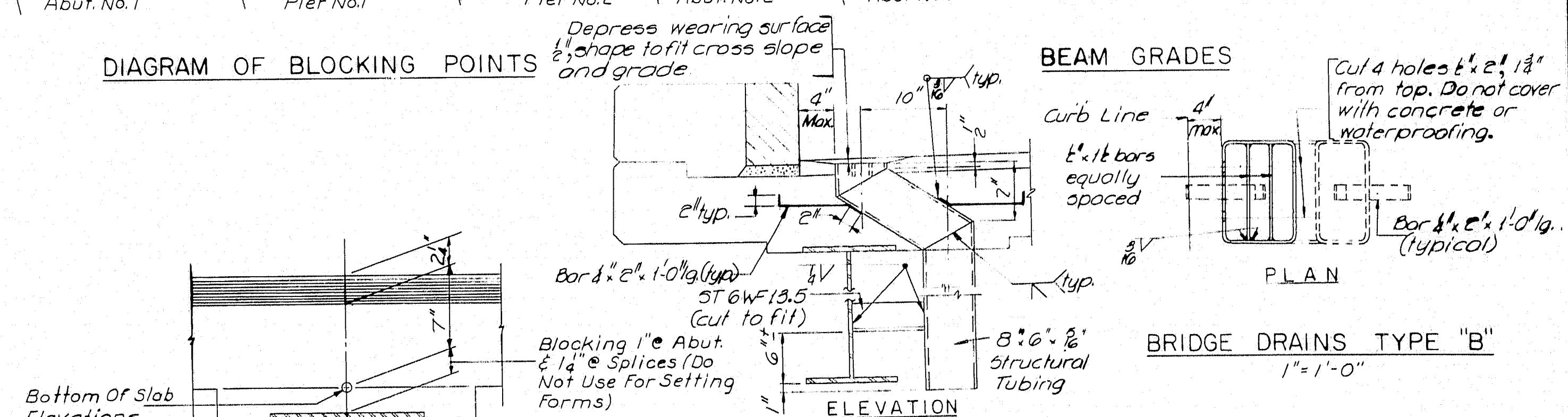
DIAGRAM OF BLOCKING POINTS



BEAM GRADES

	Abut. No. 1	SPAN NO. 1				Pier No. 1	SPAN NO. 2				Pier No. 2	SPAN NO. 3				Abut. No. 2
		8'-9"	17'-6"	26'-3"	35'-0"		8'-4 1/2"	16'-9 3/8"	25'-2 3/8"	33'-7 1/4"		7'-8 3/8"	15'-4 3/4"	23'-1 1/4"	30'-9 5/8"	
Line 1	614.74	614.50	614.25	613.98	613.71	613.43	613.18	612.93	612.68	612.42	612.17	611.95	611.72	611.50	611.26	611.02
Line 2	614.81	614.57	614.32	614.05	613.78	613.50	613.25	613.00	612.75	612.49	612.24	612.02	611.79	611.57	611.33	611.09
Line 3	614.89	614.64	614.39	614.12	613.85	613.57	613.32	613.07	612.82	612.56	612.31	612.09	611.87	611.64	611.40	611.16
Line 4	614.96	614.71	614.46	614.19	613.92	613.64	613.39	613.14	612.89	612.64	612.38	612.16	611.94	611.71	611.47	611.23
Line 5	614.78	614.54	614.29	614.02	613.75	613.47	613.22	612.97	612.72	612.46	612.21	611.99	611.76	611.54	611.30	611.06
Line 6	614.61	614.37	614.12	613.85	613.58	613.30	613.05	612.80	612.55	612.29	612.04	611.82	611.59	611.37	611.13	610.89
Line 7	614.44	614.20	613.95	613.68	613.40	613.13	612.88	612.63	612.37	612.12	611.87	611.64	611.42	611.19	610.96	610.71

BOTTOM OF SLAB ELEVATIONS AT BLOCKING POINTS



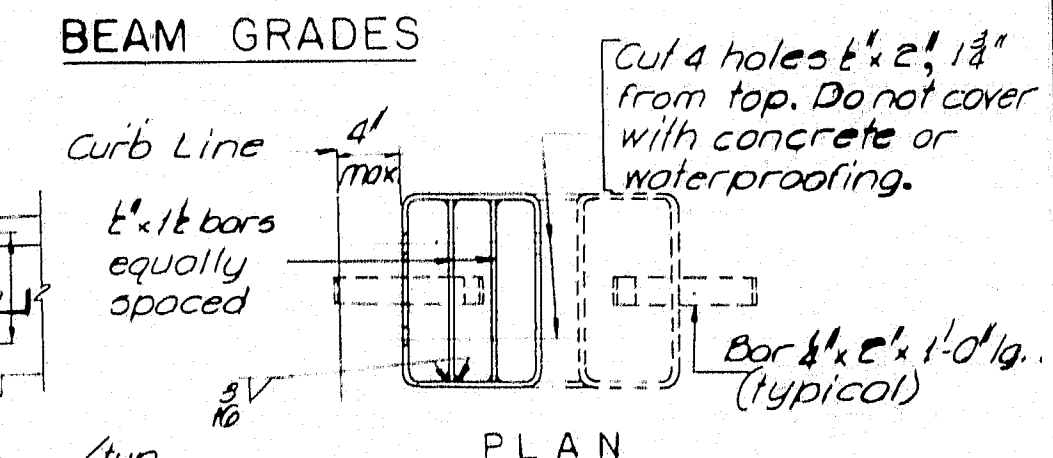
BLOCKING DETAIL
No Scale

NOTE:
To compensate for dead load deflections as well as possible irregularities in beams, set the bottom of slab elevations at the points indicated before any of the slab form work is started.

REFERENCE
Splice - See Standard Details BD 103-64
Diaphragms - See Standard Details BD 104-64
Pedestals - See Standard Details BD 101-64
Armored Joint - See Standard Details BD 104-64

SPECIFICATION
Fabrication and Erection: State of Maine Standard Specifications, Highways and Bridges, Revision of Jan 1956 and Supplementary Specifications of Feb., 1960.
Design and Detail: AASHTO Standard Specifications of 1961, and Interim Specifications 1961, 1962, 1963, 1964.
Materials: Except as otherwise noted on the standard details, all materials shall conform to A.S.T.M. designation A-36.

NOTE:
No shop camber required.
Natural mill camber to be placed up.



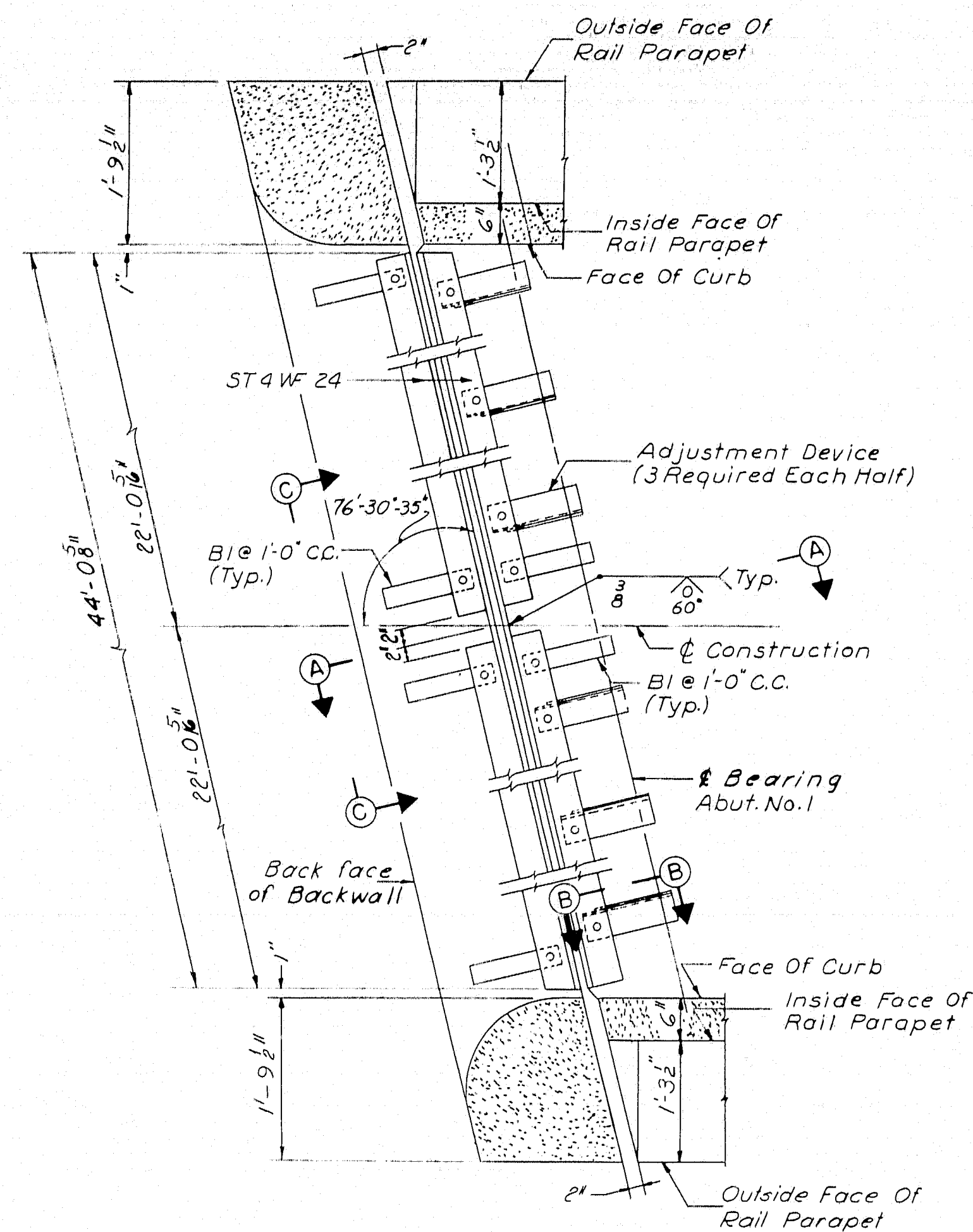
BRIDGE DRAINS TYPE "B"
1" = 1'-0"

DESIGN - C.H. DETAIL - R.D.F. BRIDGE NO. SURVEY - PLOT -
CHECK - P.R.N.
STATE HIGHWAY COMMISSION
BRIDGE DIVISION
INTERSTATE 95
OVER
LINE ROAD
IN THE TOWNS OF
SMYRNA & LUDLOW
AROSTOOK COUNTY
STRUCTURAL STEEL & BLOCKING
SHEET 10 OF 14 AUGUSTA, MAINE NOVEMBER 1964

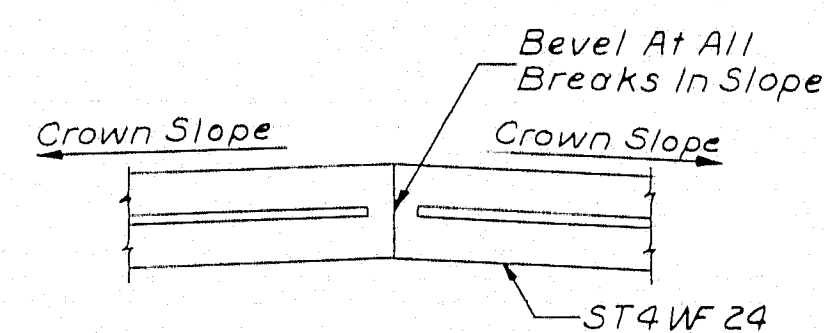
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
NEW YORK BOSTON KANSAS CITY

95-136 SMYRNA LUDLOW (20)

B. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	1-95-9(20)287	11	14



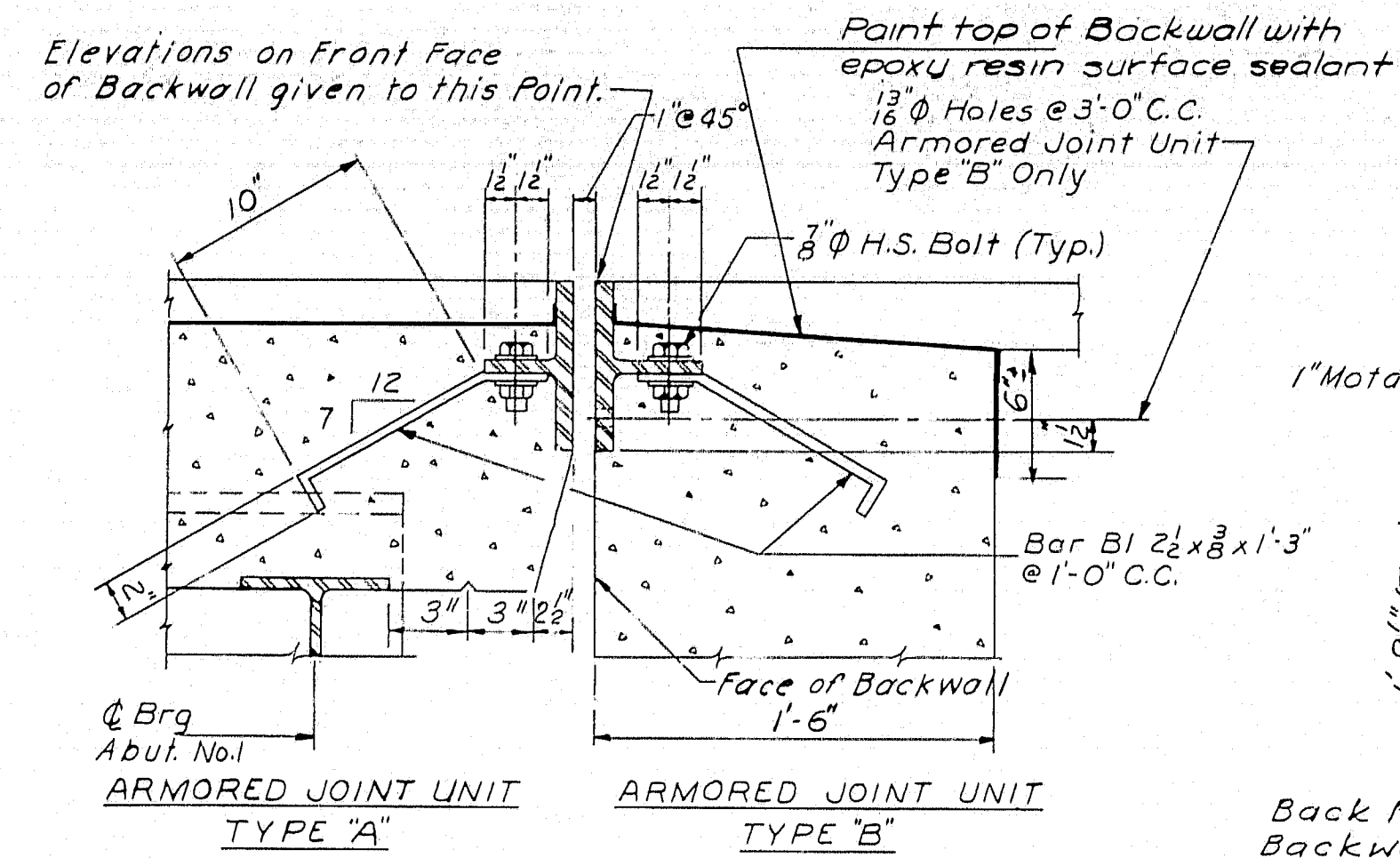
PLAN
3/4"=1'-0"



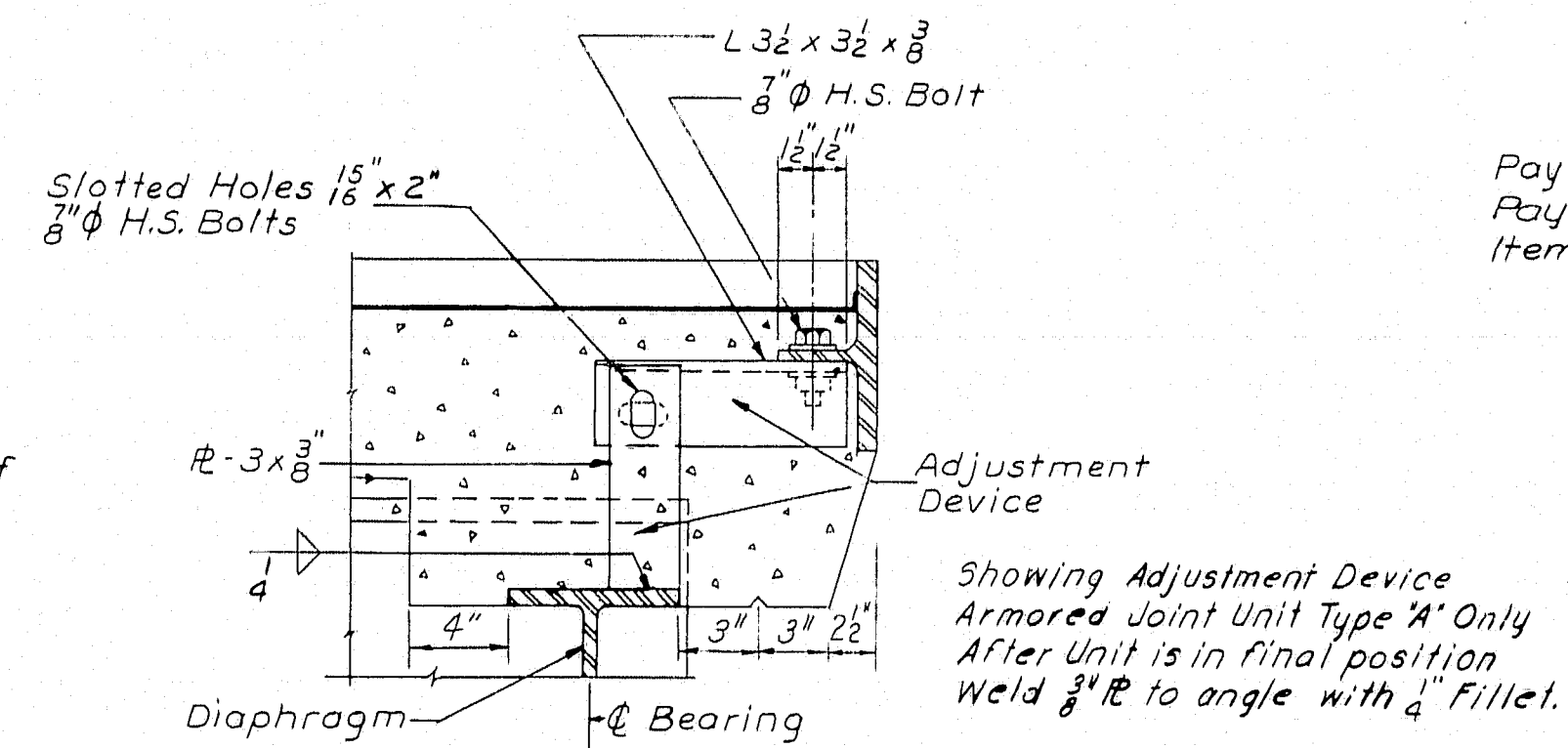
SECTION C-C

ARMORED JOINT

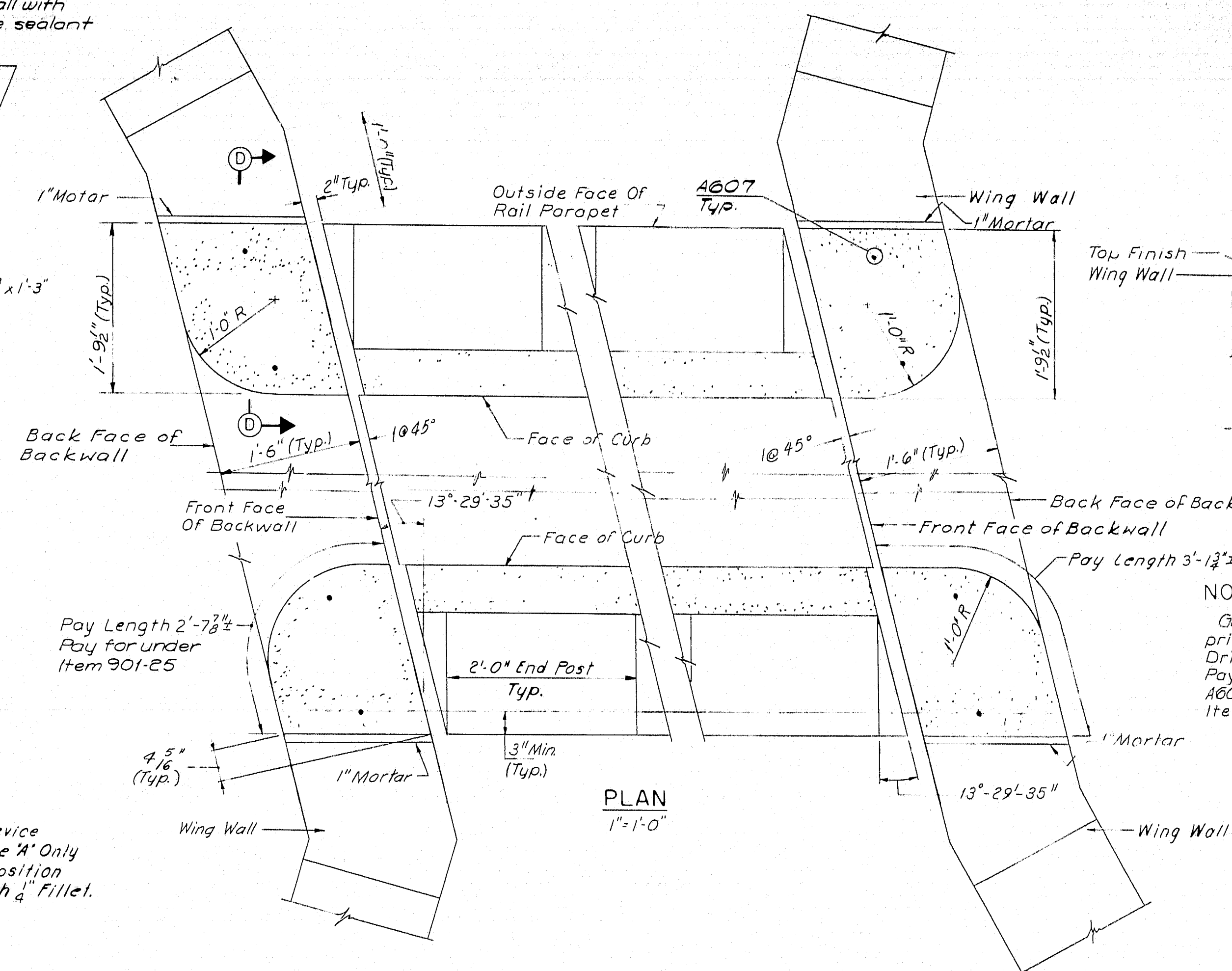
Abutment No.1 Shown - Abutment No.2 Similar
For additional details, see "Standard Details
BD 104-64"



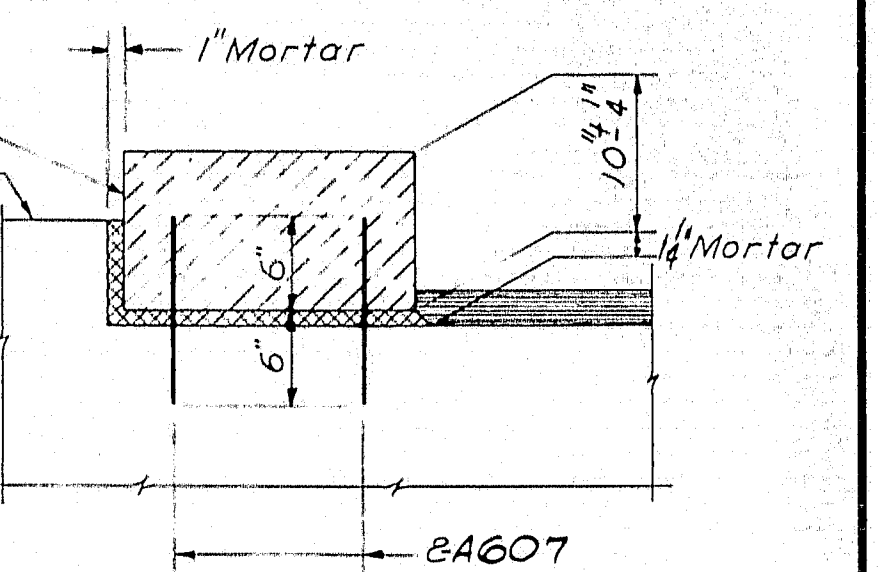
SECTION A-A
1 1/2"=1'-0"



SECTION B-B
1 1/2"=1'-0"



PLAN
1"=1'-0"



SECTION D-D
1"=1'-0"

NOTE:
Grout A607 bars into 1 1/4" holes in stone prior to setting stone on backwall. Drill 1 1/4" holes in backwall to suit A607 bars. Payment for drilling and grouting of A607 bars to be included in the price for Item 705-14 Reinforcing Steel, Placing.

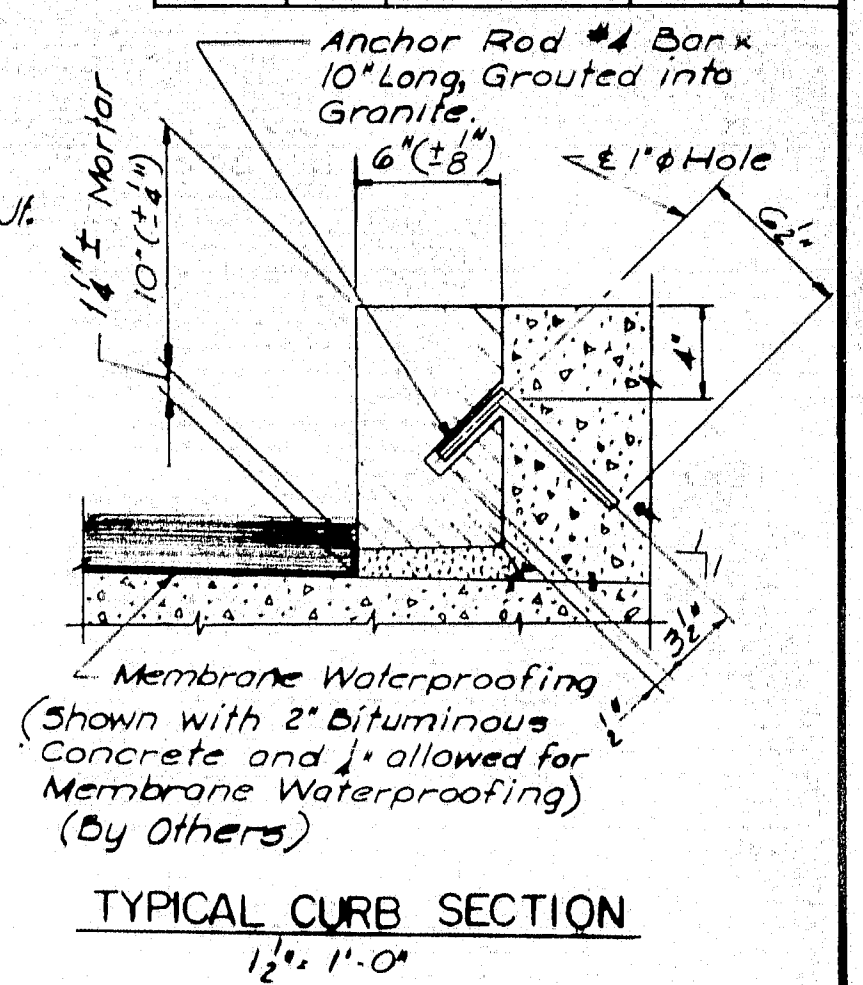
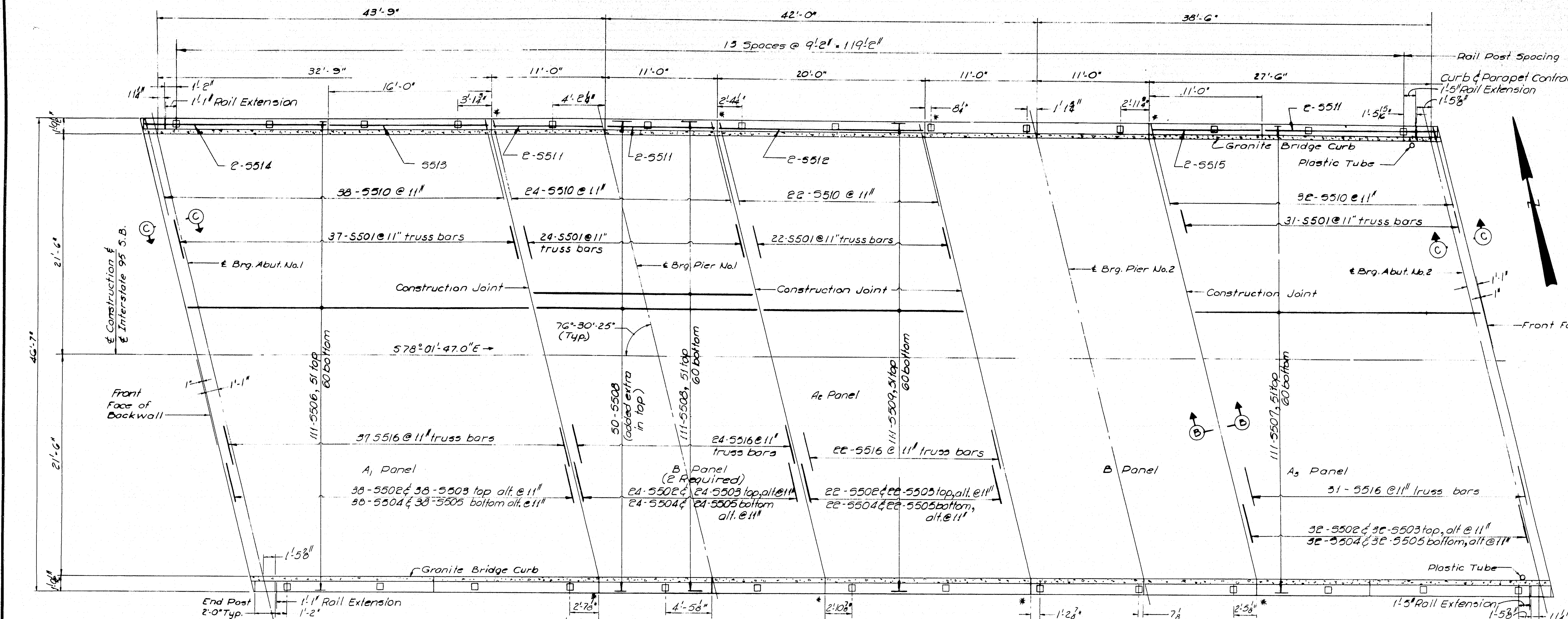
GRANITE BRIDGE CURB DETAILS AT ABUTMENT BACKWALLS

Granite Bridge Curb means Vertical Bridge Curb. Type 1 Items 901-24 & 901-25.

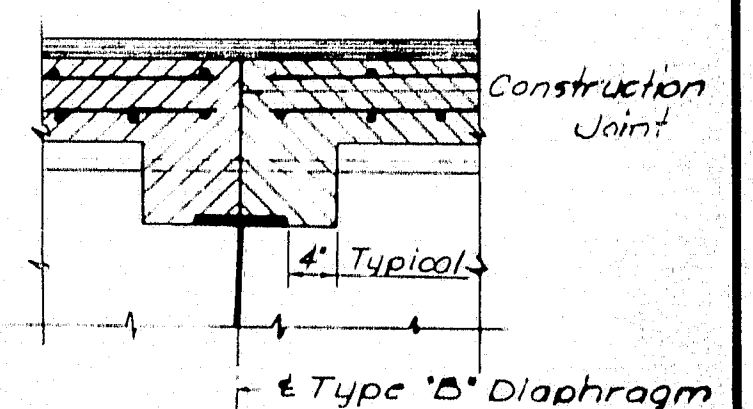
DESIGN - I.S.	DETAIL - R.D.F.	BRIDGE NO.
TRACE - F.R.U.		SURVEY -
CHECK - F.R.U.		PLOT -
STATE HIGHWAY COMMISSION BRIDGE DIVISION		
INTERSTATE 95		
OVER		
LINE ROAD		
IN THE TOWNS OF		
SMYRNA & LUDLOW		
AROSTOOK COUNTY		
ARMORED JOINT & CURB DETAILS		
HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS	NEW YORK BOSTON KANSAS CITY	SHEET 11 OF 14 AUGUSTA, MAINE NOVEMBER 1964

95-137 SMYRNA LUDLOW (20)

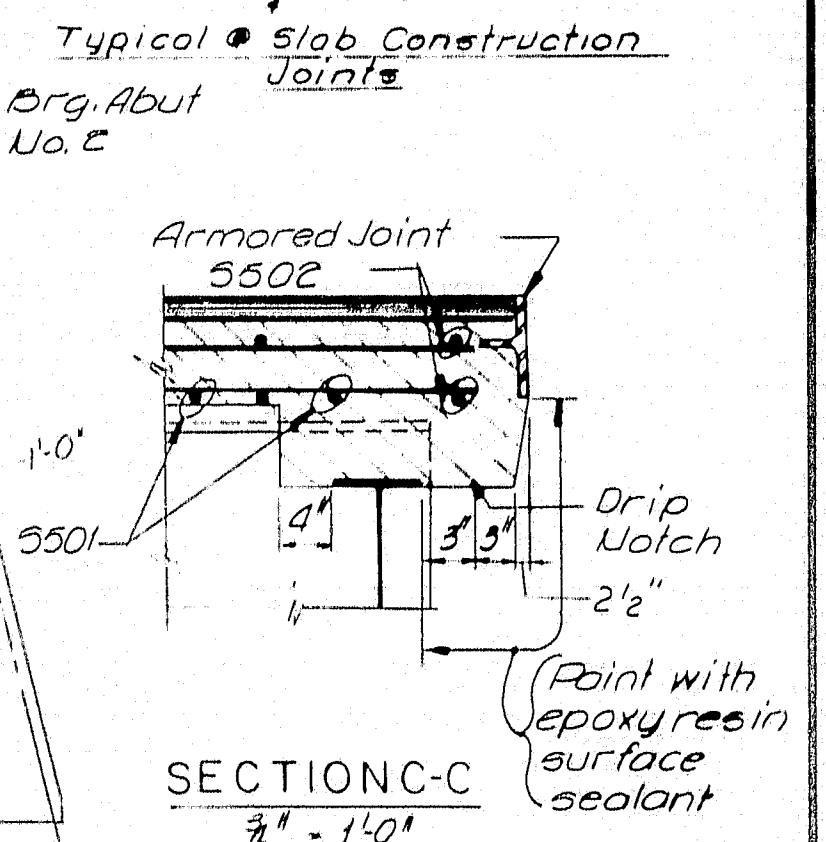
0 1 2 3 4 5 INCHES



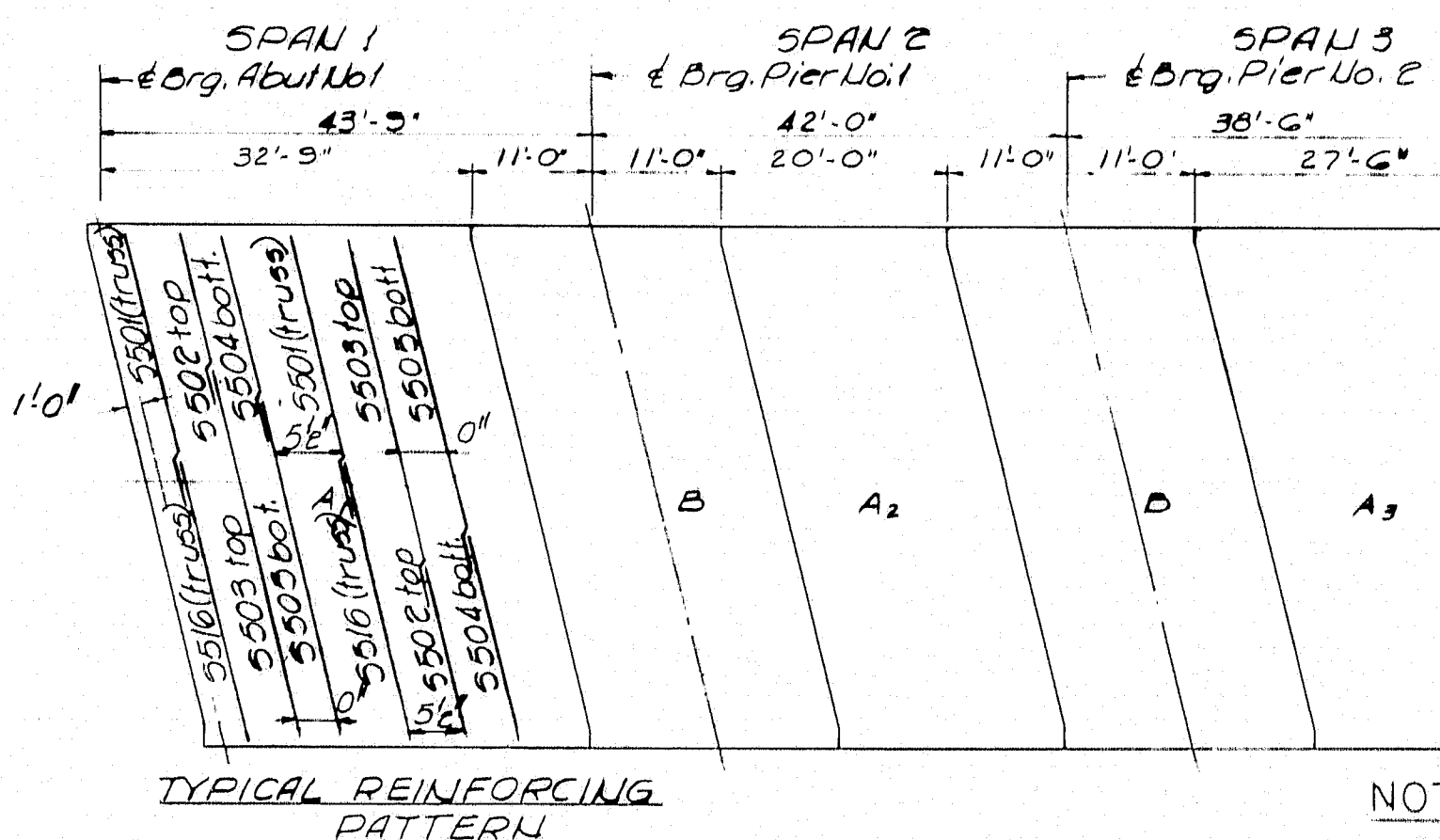
- NOTES:
- 5501 to 5505 & 5508 bars spaced as shown in 'Partial Transverse Section'.
 - Safety walk steel shown same for both safety walks.
 - All reinforcing to have 2" minimum cover unless otherwise shown.
 - * Field bend rod to accommodate joint in the slab.



SECTION B-B



- NOTE:
- Place concrete in 'A' panels before placing concrete in 'B' panels.



PLACING SEQUENCE

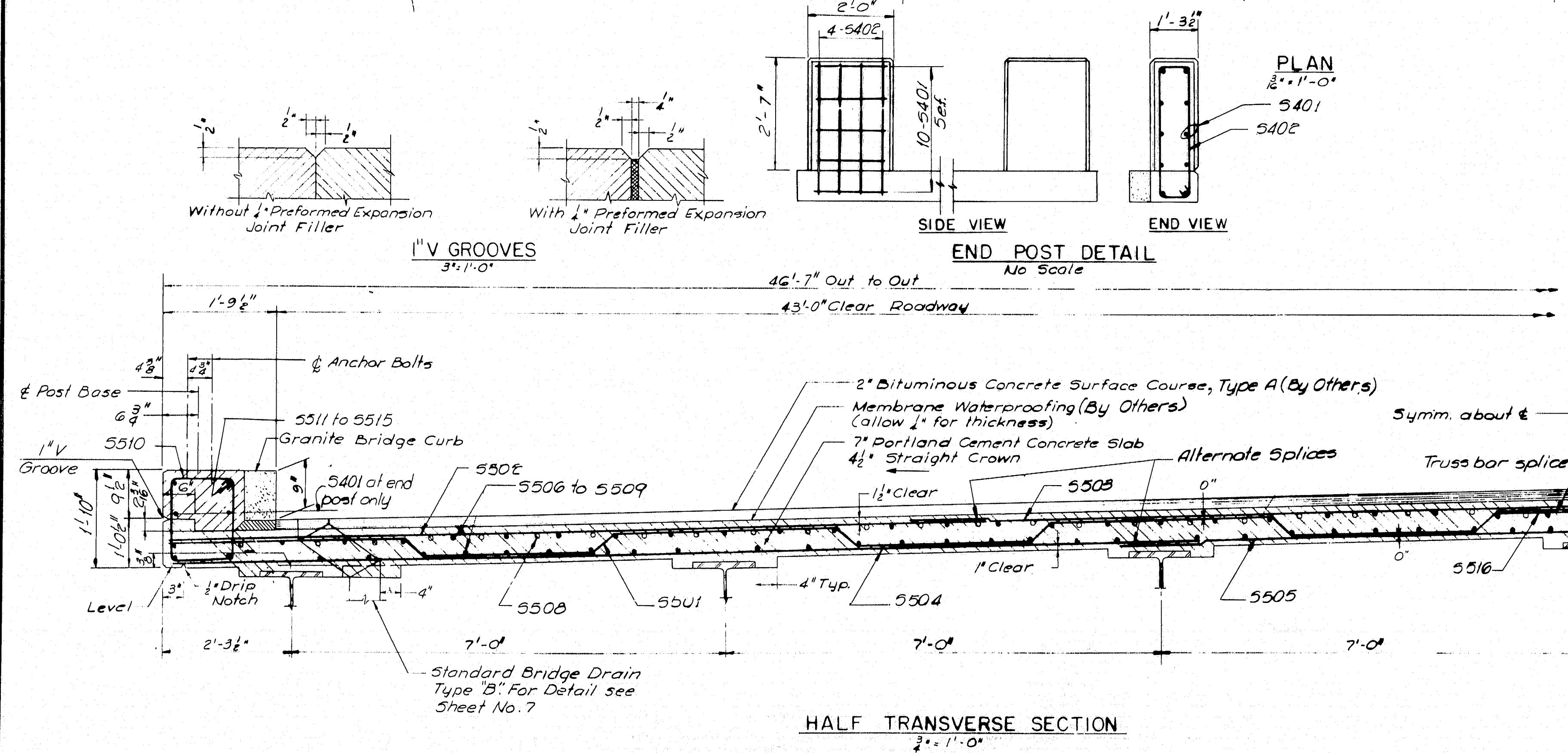
- GENERAL SUPERSTRUCTURE NOTES:
- At joints in curbs (granite bridge curbs over piers), use 1/2" preformed expansion joint filler. At all other curb joints break the bond between concrete surfaces with a suitable grade asphalt paint. Form 'V' Grooves on outside face of curb and slab at each vertical joint. Provide joints in granite bridge curb at curb construction joints.
 - At low points in slabs place a plastic tube 1" Ø through the slab for drainage. Exact location to be determined in field. Do not cover the tube with waterproofing. This work will be incidental to contract items. Tube shall extend 2" below bottom of slab. Place tubes to drip clear of bridge seat.
 - For bridge rail, see Standard Details, BD 107-G4 & BD 108-G4.
 - Payment for concrete in end posts will be made under Item 701-40.

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CONSULTING ENGINEERS
NEW YORK BOSTON KANSAS CITY

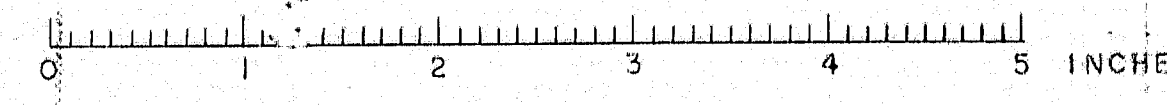
DESIGN - I.S.	DETAIL - A.A.L.	BRIDGE NO.
TRACE - PRN		SURVEY -
PLOT -		
STATE HIGHWAY COMMISSION BRIDGE DIVISION		
INTERSTATE 95 OVER LINE ROAD IN THE TOWNS OF SMYRNA & LUDLOW ARROSTOCK COUNTY		
SUPERSTRUCTURE		
SHEET 12 OF 14 AUGUSTA, MAINE NOVEMBER 1964		

95-138

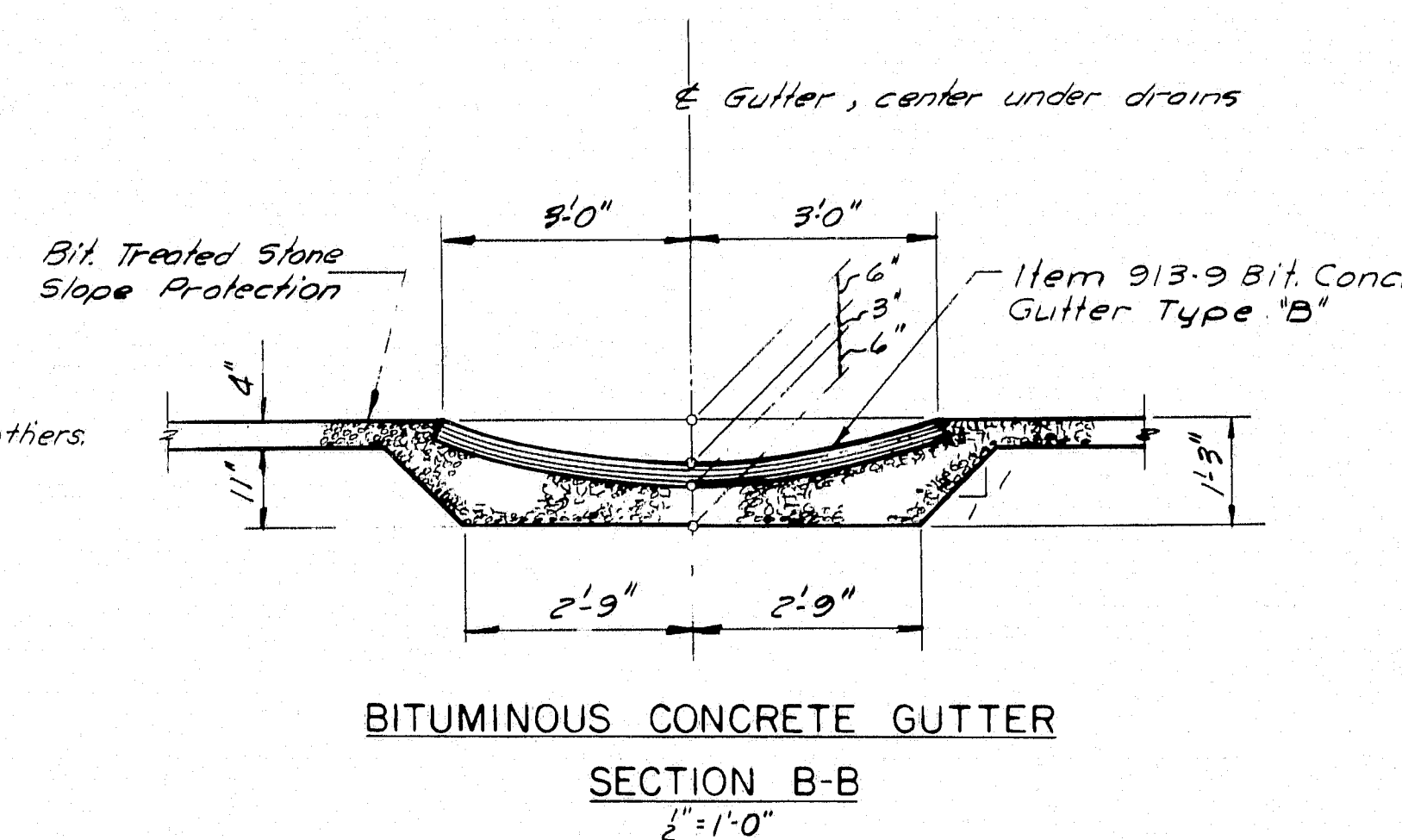
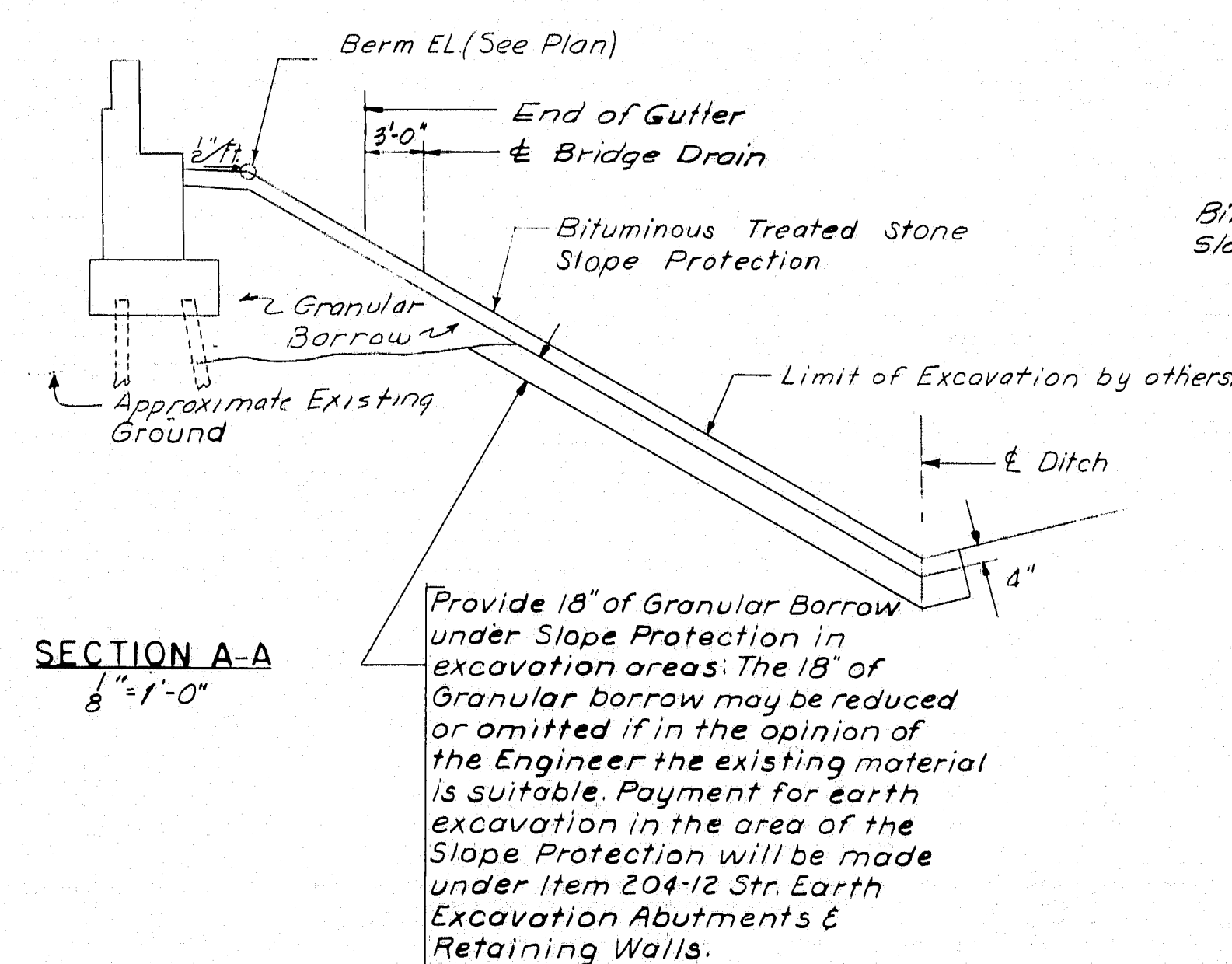
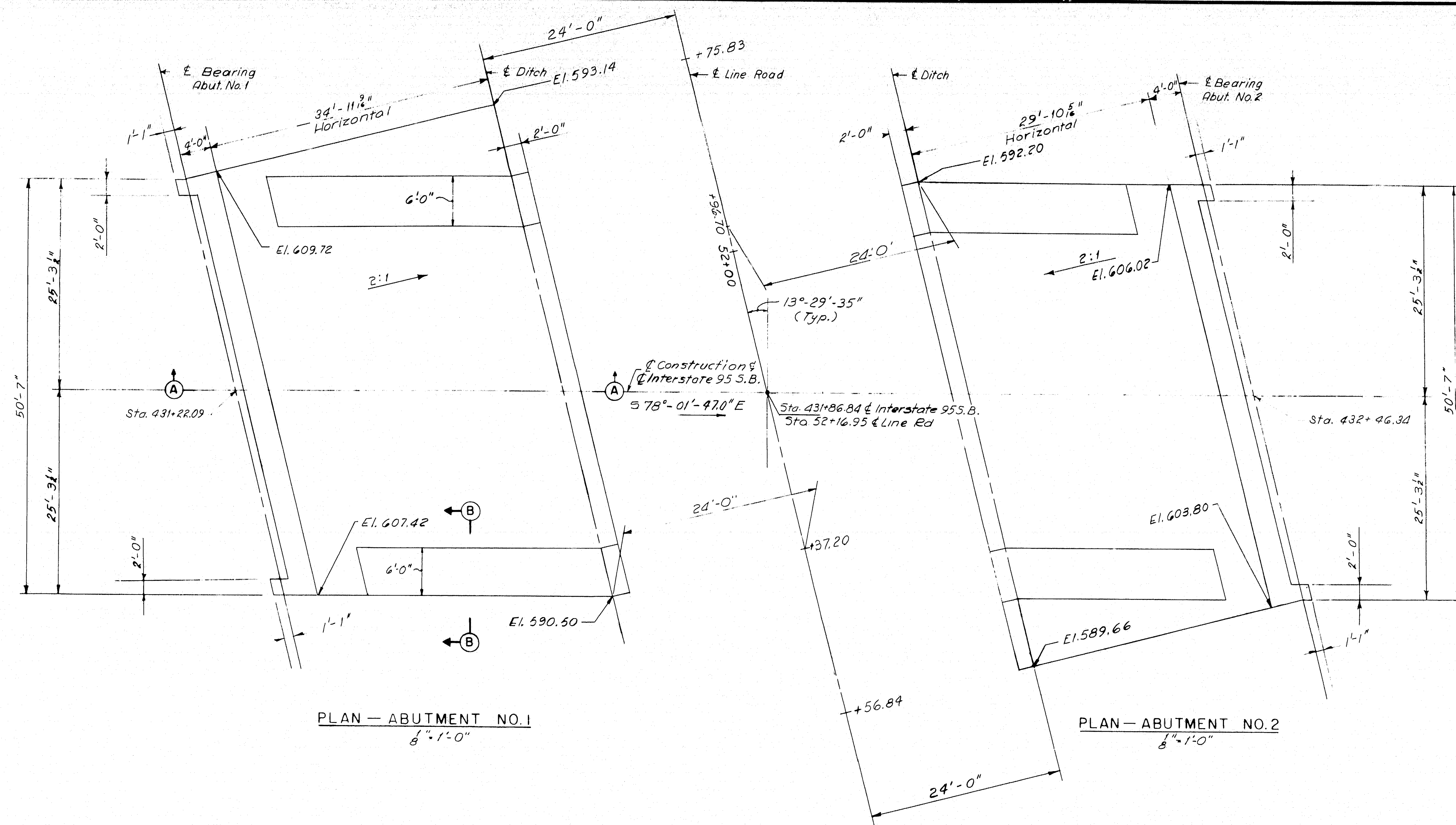
SMYRNA LUDLOW (20)



HALF TRANSVERSE SECTION



B. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	1-95-9(20) 287	13	14



NOTE:
Payment for Bit Treated Stone Slope Protection placed beneath the gutter shall be made at the contract unit price for Item 913-B Bit Treated Stone Slope Protection per square yard.

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
NEW YORK BOSTON KANSAS CITY

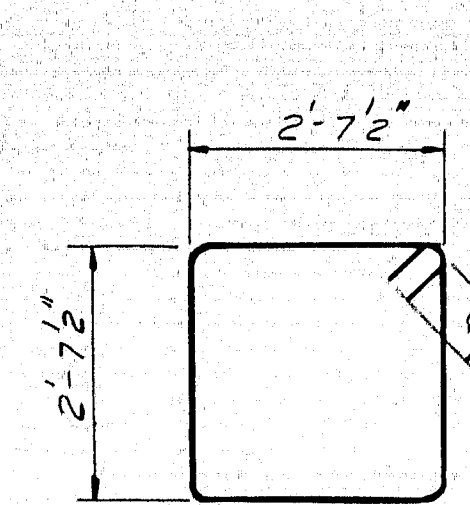
DESIGN — TRACE — CHECK — P.R.N.	DETAIL — R.P.K.	BRIDGE NO. SURVEY — PLOT —
STATE HIGHWAY COMMISSION BRIDGE DIVISION INTERSTATE 95 OVER LINE ROAD IN THE TOWNS OF SMYRNA & LUDLOW AROOSTOOK COUNTY SLOPE PROTECTION		
SHEET 13 OF 14 AUGUSTA, MAINE NOVEMBER 1964		

95-139 SMYRNA LUDLOW (20)

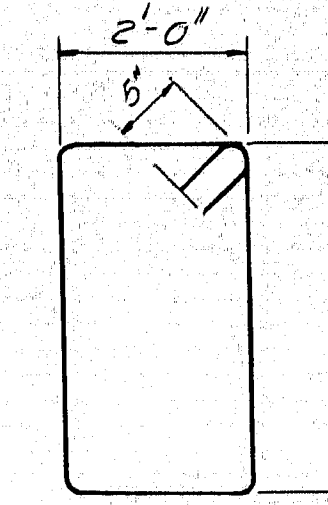
0 1 2 3 4 5 INCHES

MARK	SIZE	NUMBER	LENGTH	INCR.	LOCATION
ABUTMENTS					
STRAIGHT BARS		<i>Total is for two abutments</i>			
A401	4	10	26'0"		Back wall
A402	4	10	22'9"		Back wall
A403	4	8	6'9"		Wingwall
A414	4	2	24'6"		Back wall
A415	4	2	21'3"		Back wall
A416	4	16	9'0"		Wingwall
A417	4	4	4'9"		"
A418	4	4	7'3"		Wingwall
A501	5	128	4'0"		Backwall Abutment No. 1
A502	5	16	25'6"		Stem
A503	5	16	24'0"		"
A504	5	64	3'0"		Stem
A505	5	128	6'9"		Stem & Wingwall
A506	5	64	2'6"		Stem
A507	5	28	4'3" to 6"		Wingwall 4 Groups of 7
A508	5	28	2'6" to 5'2"		Wingwall 4 Groups of 7
A601	6	48	25'0"		Footing
A602	6	196	5'6"		"
A603	6	24	9'0"		"
A604	6	24	10'0"		"
A605	6	72	3'6" to 5'6"		Footing
			3"		8 Groups of 9
A607	6	8	1'0"		Curb Dowels
BENT BARS					
A404	4	8	9'0"		Wingwall
A405	4	2	4'3"		"
A406	4	2	6'9"		"
A407	4	8	9'0"		"
A408	4	2	4'9"		"
A409	4	2	7'3"		Wingwall
A410	4	28	4'0"		Pads
A411	4	4	5'0"		"
A412	4	4	5'3"		"
A413	4	20	5'2"		Pads
A509	5	64	7'3"		Stem
A608	6	64	3'6"		Approach Slab Dowels
APPROACH SLAB					
A5414	4	88	22'0"		
A5607	6	344	14'6"		
PIER 1					
BENT BARS					
P401	4	54	11'4"		Column
P501	5	4	9'7"		Cap
P502	5	4	10'2"		"
P503	5	4	10'9"		"
P504	5	4	11'4"		"
P505	5	4	11'11"		"
P506	5	70	12'1"		"
P601	6	8	8'6"		Cap
STRAIGHT BARS					
P602	6	4	24'0"		Cap
P603	6	4	22'6"		"
P604	6	30	5'6"		Footing
P701	7	48	5'6"		Footing
P901	9	4	12'0"		Cap
P902	9	5	16'5"		"
P903	9	5	33'3"		"
P904	9	10	19'2"		Cap
P905	9	14	18'2"		Column
P906	9	12	21'2"		"
P907	9	14	23'8"		Column
P909	9	40	5'8"		Footing

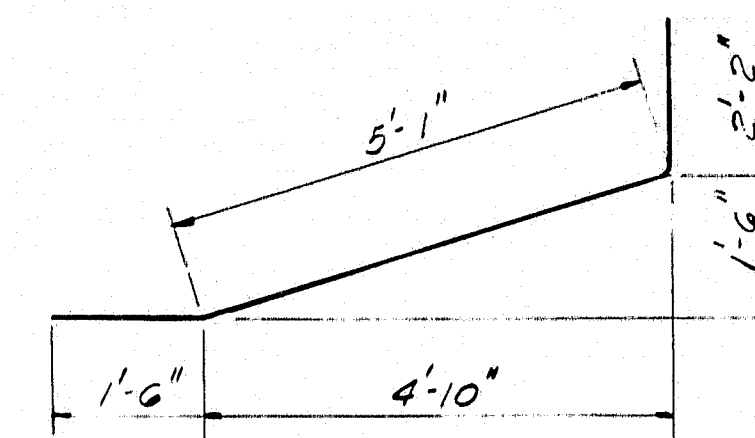
MARK	SIZE	NUMBER	LENGTH	INCR.	LOCATION
PIER 2 LINE ROAD					
BENT BARS					
P401	4	69	11'4"		Column
P501	5	4	9'7"		Cap
P502	5	4	10'2"		"
P503	5	4	10'9"		"
P504	5	4	11'4"		"
P505	5	4	11'11"		"
P506	5	70	12'1"		"
P601	6	8	8'6"		Cap
STRAIGHT BARS					
P602	6	4	24'0"		Cap
P603	6	4	22'6"		Cap
P604	6	20	5'6"		Footing
P605	6	10	6'6"		Footing
P701	7	32	5'6"		Footing
P702	7	16	6'6"		Footing
P901	9	4	12'0"		Cap
P902	9	5	16'5"		"
P903	9	5	33'3"		"
P904	9	10	19'2"		Cap
P908	9	36	23'10"		Column
P909	9	36	5'8"		Footing
SUPERSTRUCTURE					
STRAIGHT BARS					
S502	5	140	13'9"		Slab Transverse
S503	5	140	35'4"		"
S504	5	140	17'4"		"
S505	5	140	31'9"		"
S506	5	111	33'5"		Slab Longitudinal
S507	5	111	28'2"		"
S508	5	322	21'8"		"
S509	5	111	19'8"		Slab Longitudinal
S511	5	20	10'8"		Safety Walk
S512	5	4	19'8"		"
S513	5	4	15'8"		"
S514	5	4	17'3"		"
S515	5	4	17'0"		Safety Walk
S401	4	40	1'8"		End Post
BENT BARS					
S402	4	16	8'7"		End Post
S501	5	138	24'0"		Slab Transverse (Truss)
S510	5	280	4'11"		Safety Walk
S516	5	138	26'5"		



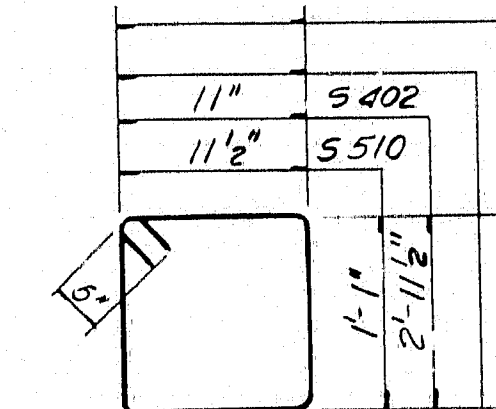
P 401



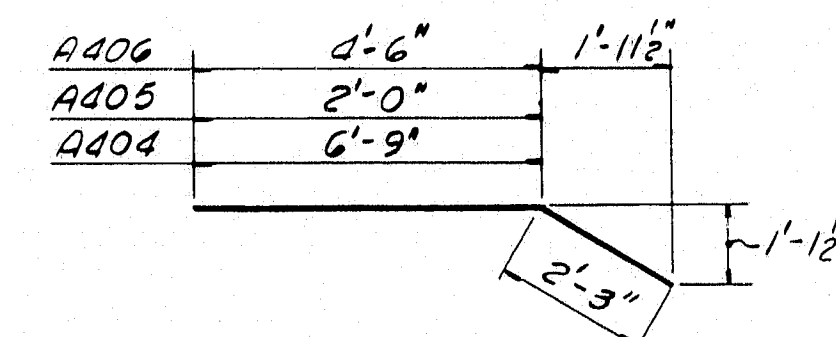
P501 TO P506



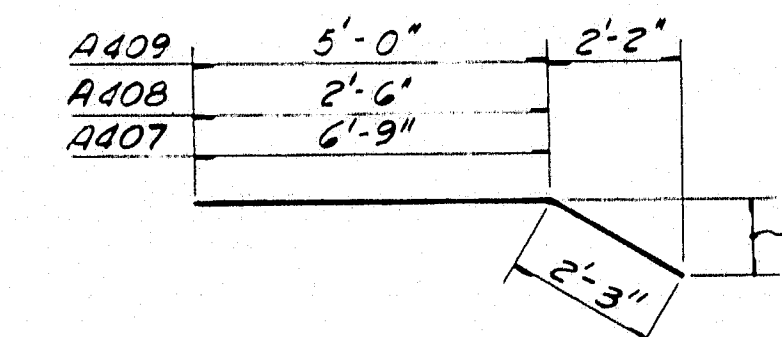
P 601



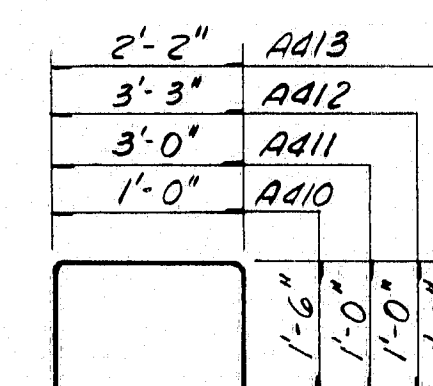
S 510 & S 402



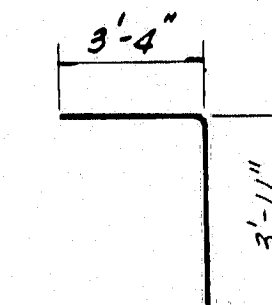
A 404 TO A 406



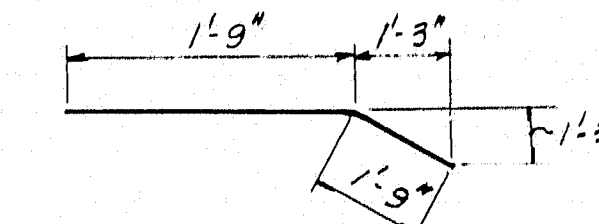
A 407 TO A 409



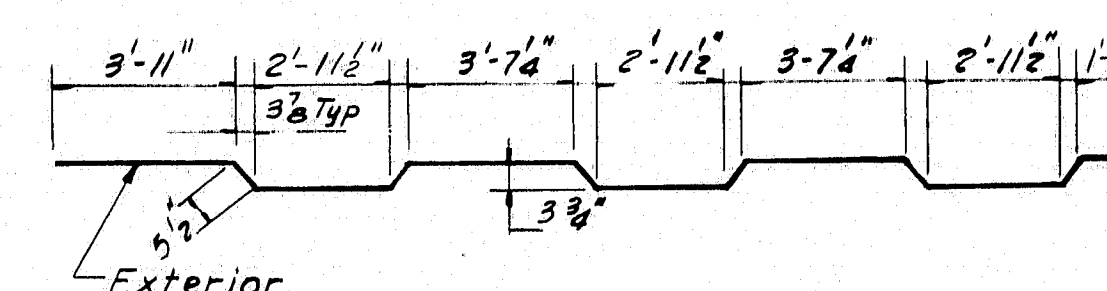
A 410 TO A 413



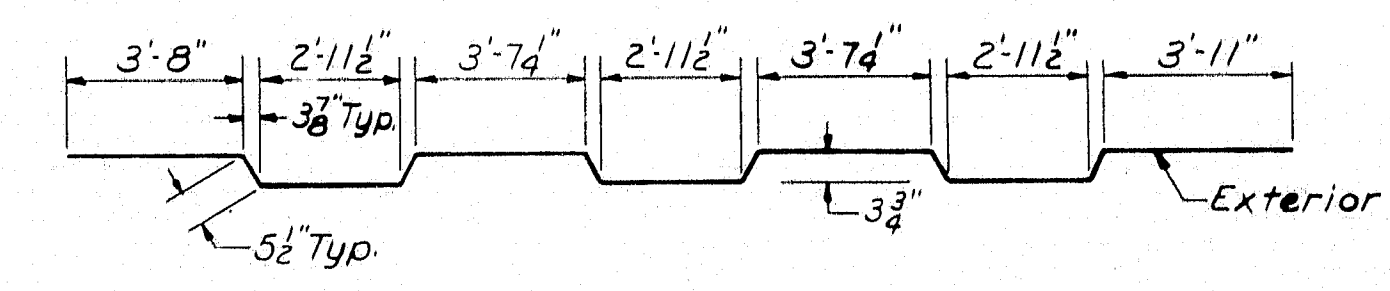
A 509



A 608



S 501



S 516

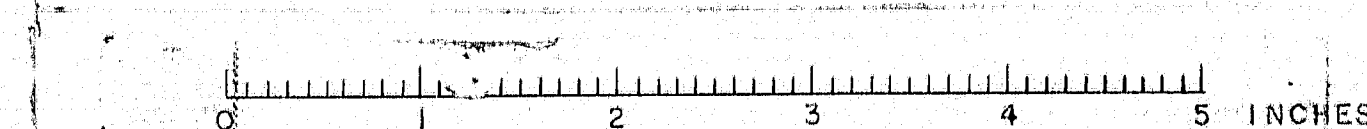
NOTES:
 1. All dimensions are to the centerline of bars
 2. All reinforcing bars shall be Intermediate grade steel.
 3. Reinforcing steel to have 1" Minimum cover unless otherwise shown.

DESIGN - E.F.K. DETAIL - J.R.A.
 TRACE - PLOT
 CHECK - P.B.U.
 BRIDGE NO. SURVEY - PLOT
 STATE HIGHWAY COMMISSION
 BRIDGE DIVISION
 INTERSTATE 95
 OVER
 LINE ROAD
 IN THE TOWNS OF
 SMYRNA & LUDLOW
 AROOSTOOK COUNTY
 REINFORCING STEEL

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
 CONSULTING ENGINEERS
 NEW YORK BOSTON KANSAS CITY

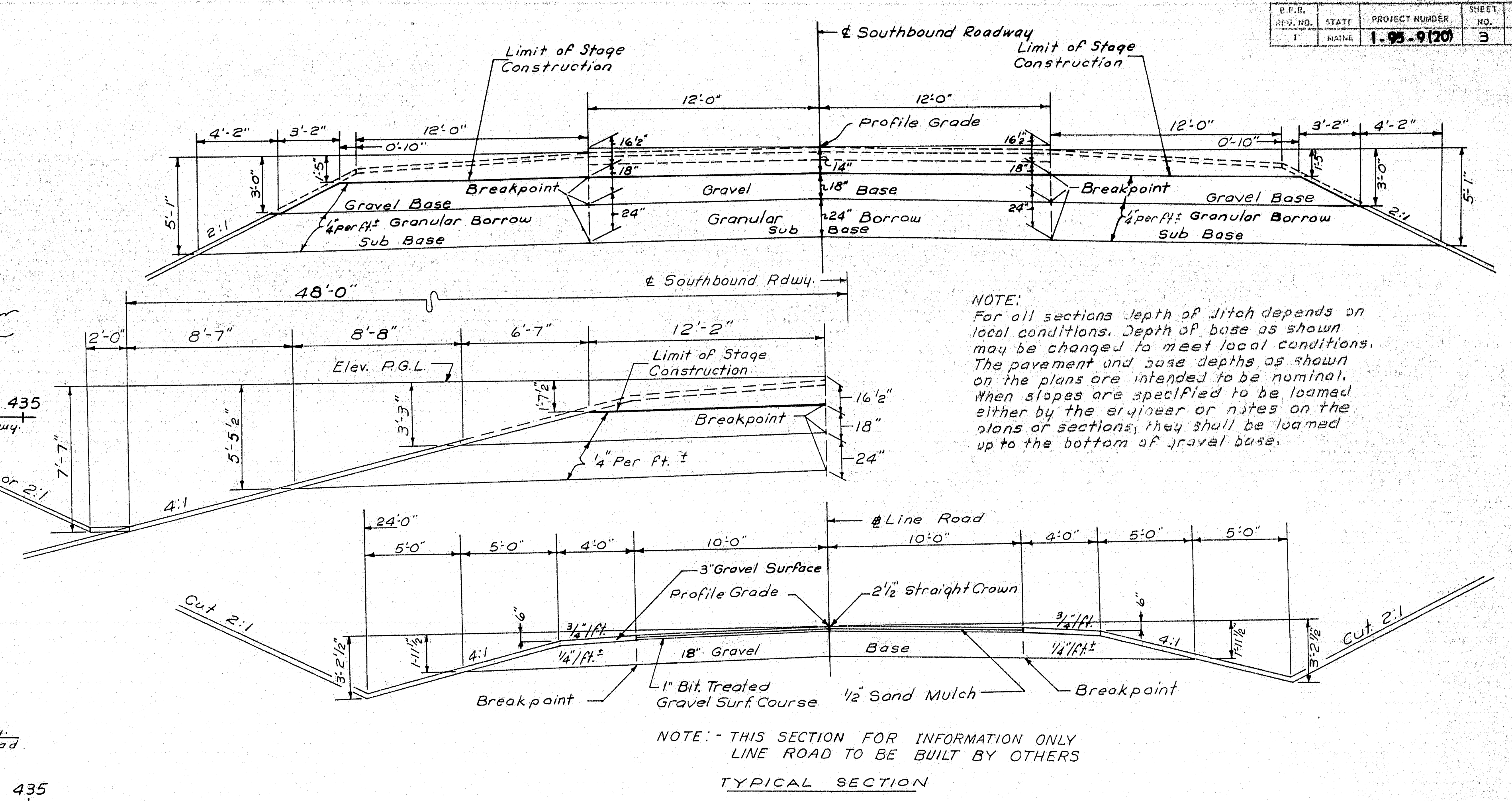
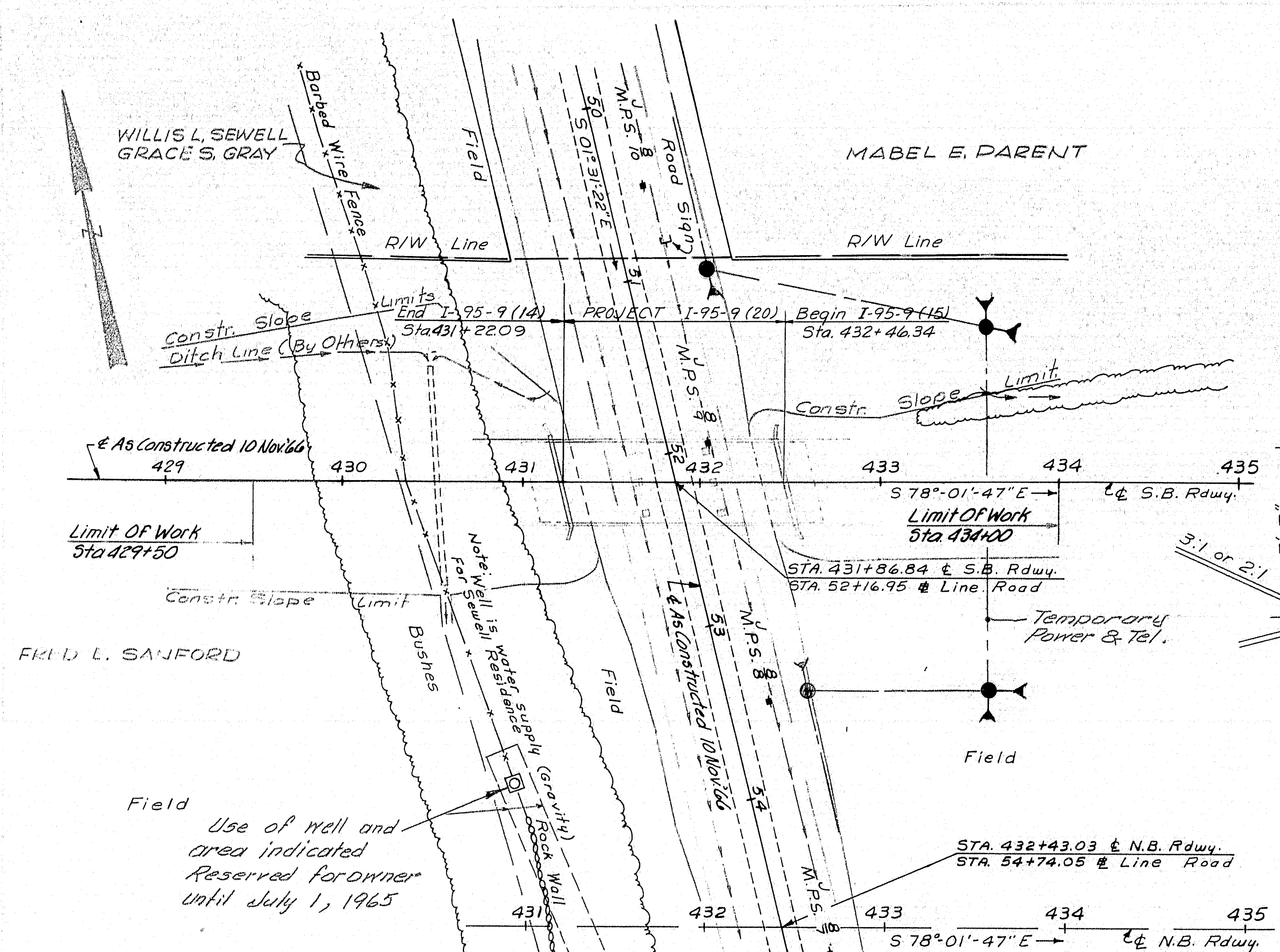
SHEET 14 OF 14 AUGUSTA, MAINE NOVEMBER 1964

95-140 SMYRNA LUDLOW (20)



12-63
H.N.T. & B.

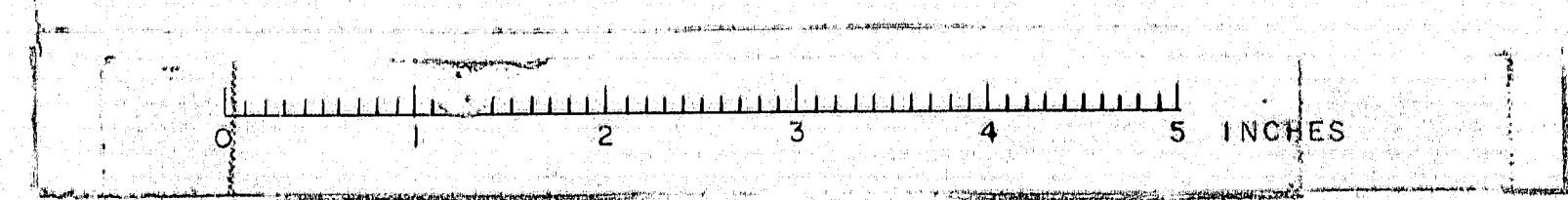
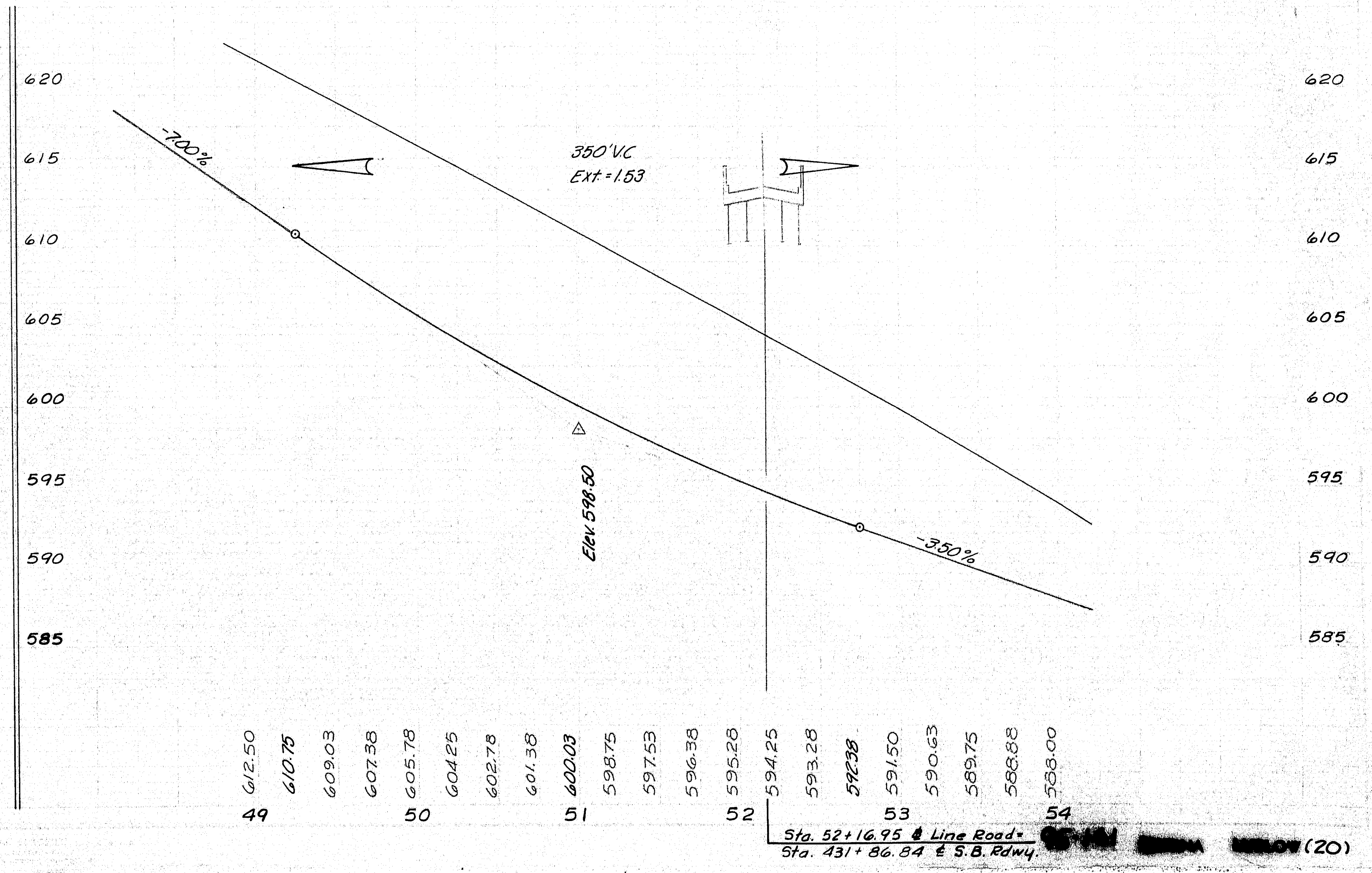
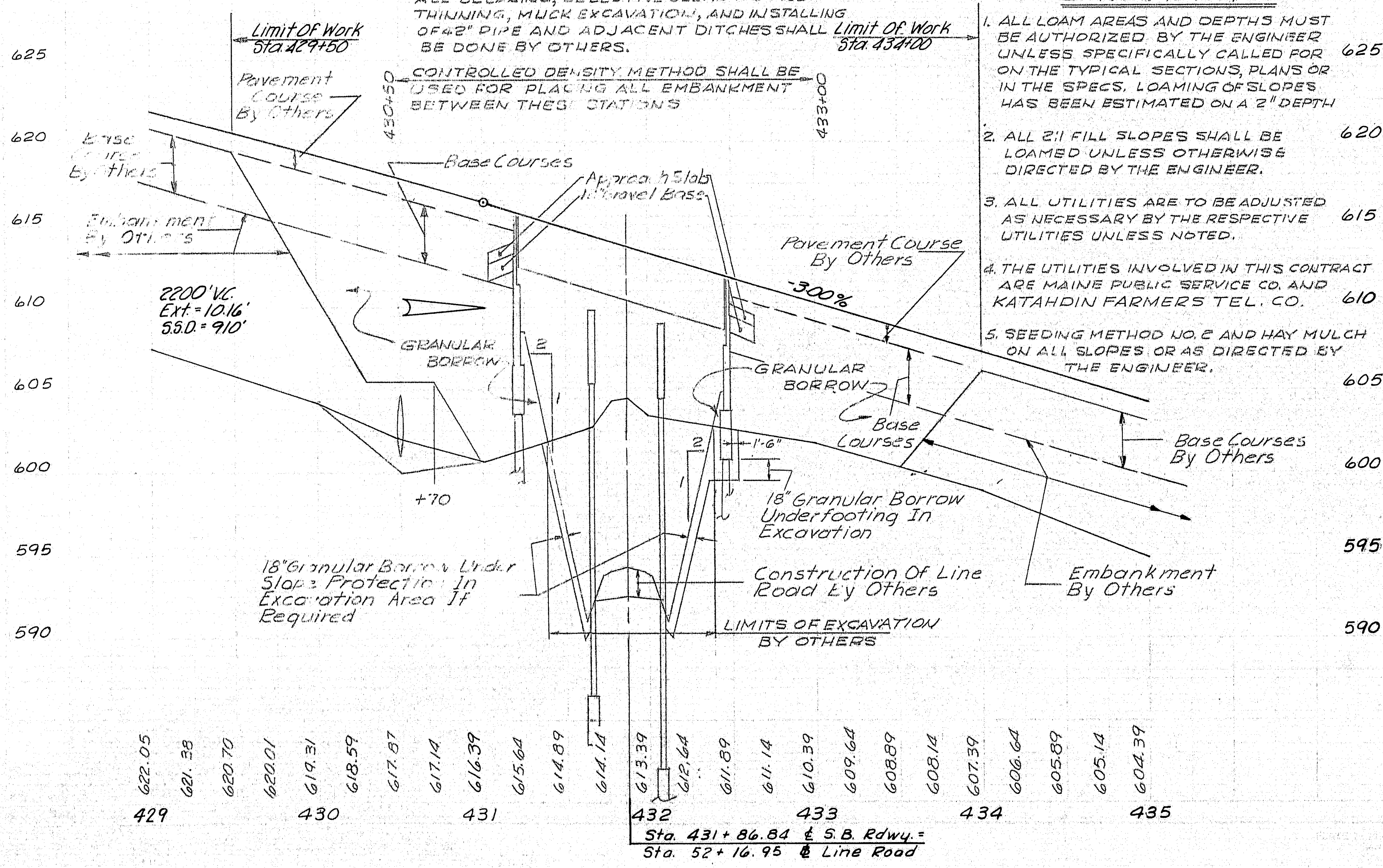
12-63
H.N.T. & B.



NOTE:
For all sections depth of ditch depends on local conditions. Depth of base as shown may be changed to meet local conditions. The pavement and base depths as shown on the plans are intended to be nominal. When slopes are specified to be loamed either by the engineer or notes on the plans or sections, they shall be loamed up to the bottom of gravel base.

NOTE:
ALL CLEARING, SELECTIVE CLEARING AND THINNING, MUCK EXCAVATION, AND INSTALLING OF 42" PIPE AND ADJACENT DITCHES SHALL BE DONE BY OTHERS.
CONTROLLED DENSITY METHOD SHALL BE USED FOR PLACING ALL EMBANKMENT BETWEEN THESE STATIONS

- GENERAL NOTES**
1. ALL LOAM AREAS AND DEPTHS MUST BE AUTHORIZED BY THE ENGINEER UNLESS SPECIFICALLY CALLED FOR ON THE TYPICAL SECTIONS, PLANS OR IN THE SPECS. LOAMING OF SLOPES HAS BEEN ESTIMATED ON A 2" DEPTH
 2. ALL 2:1 FILL SLOPES SHALL BE LOAMED UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
 3. ALL UTILITIES ARE TO BE ADJUSTED AS NECESSARY BY THE RESPECTIVE UTILITIES UNLESS NOTED.
 4. THE UTILITIES INVOLVED IN THIS CONTRACT ARE MAINE PUBLIC SERVICE CO. AND KATAHDIN FARMERS TEL. CO.
 5. SEEDING METHOD NO. 2 AND HAY MULCH ON ALL SLOPES OR AS DIRECTED BY THE ENGINEER.



INVT S.B.A
JAY S.B.A

274

604.39

435+0
LIMIT OF WORK STA 434+00

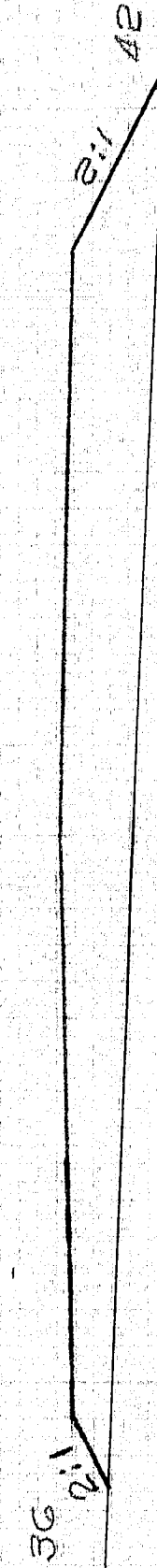
607.39



434+0

F=500

610.39



F=438

433+0
FULL SECTION STA 432+60
STA 432+46.34
BEGIN PROJECT I-95-9-15
END PROJECT I-95-9-20

F=154

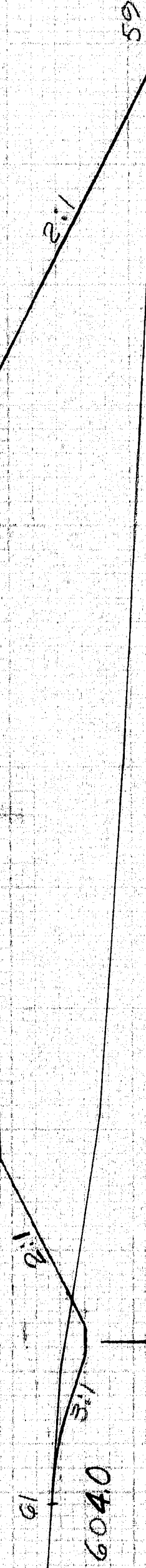
432+34
O SECTION

O SECTION STA 431+38

431+38
STA 431+22.09
BEGIN PROJECT I-95-9-20
END PROJECT I-95-9-14

F=461

FULL SECTION STA 431+10



431+0

F=3820

NOTE:
DITCH BETWEEN STA 430+50 AND
STA 429+00 LEFT BY OTHERS.
DITCH BETWEEN STA 430+50 AND LINE
ROAD LEFT, THIS "OUTLET", PRISMATIC
WILL BE MADE UNDER ITEM 204-12

2-4 U.B.
Sta 430+50 S.B.
Install: By Precompacted Method
42"x124" R.C.P. Class III
Place Hand Laid Riprap Grouted
Around Inlet and Outlet
(By Others)

619.31

Inn 603.5 Sta 430+00

Inn 603.0 @ CULVERT INLET PEAT APPLIES TO
STA 430+54.2'

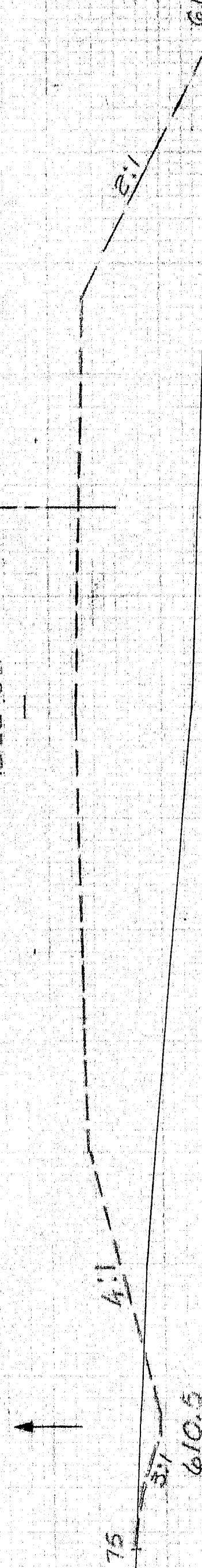
430+0

LIMIT OF WORK STA 429+50

F=1810

2-4 U.B.

622.55



429+0

600

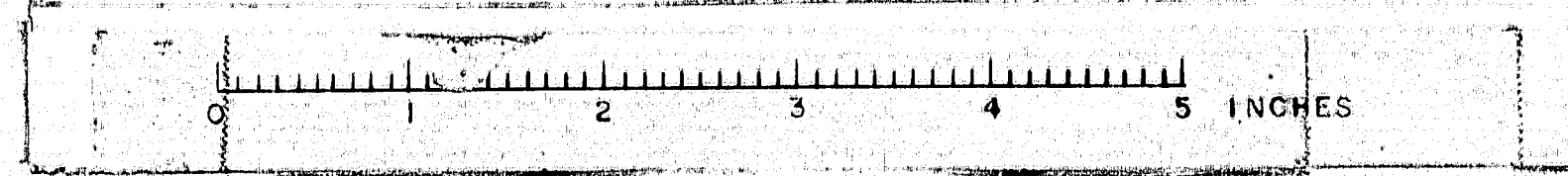
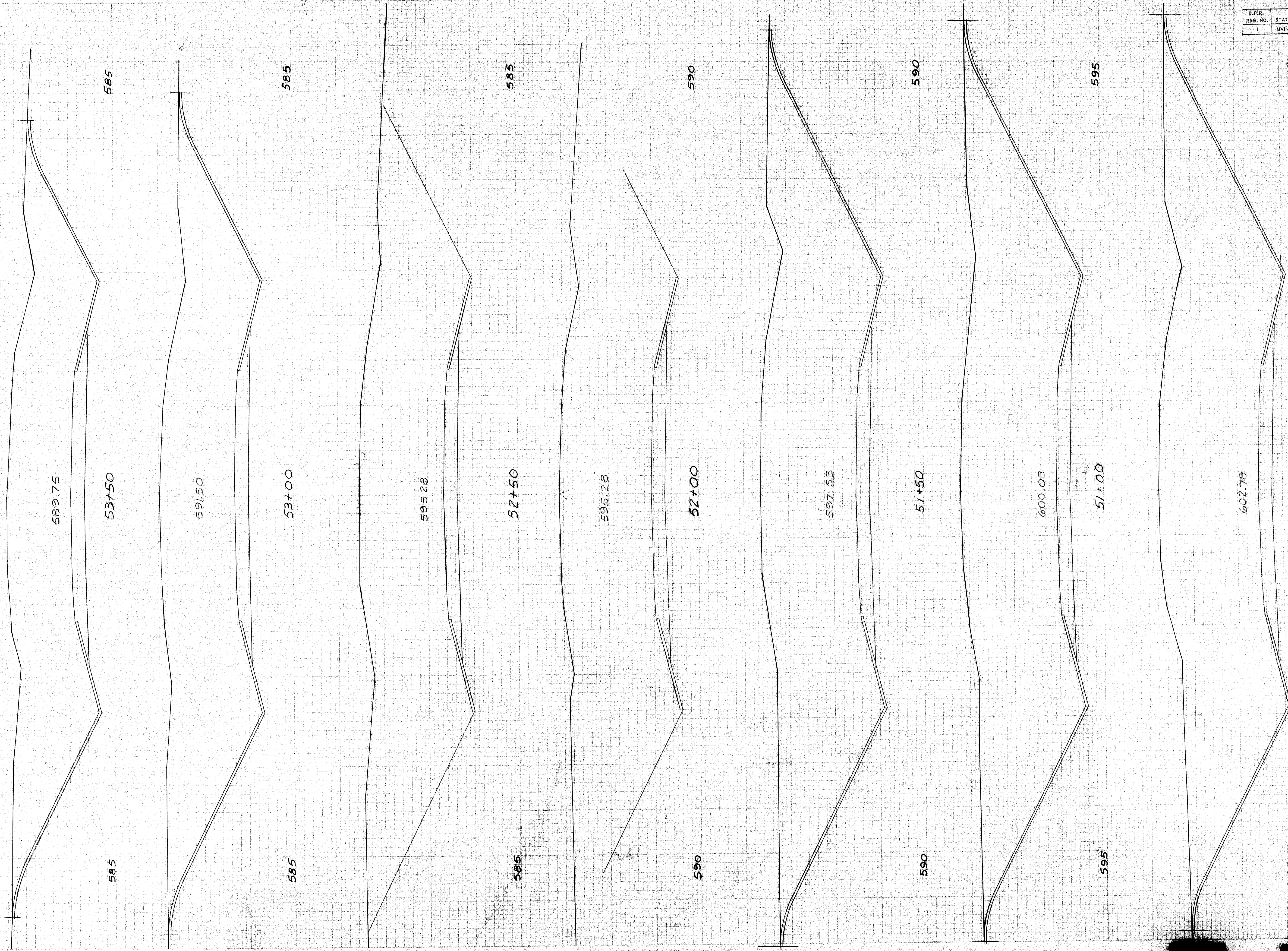
600

S.P.R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	1-95-9-15	4	14

S.B. X-SECTIONS 429+00 TO 435+00

HAY CREEK
12-63
6-64

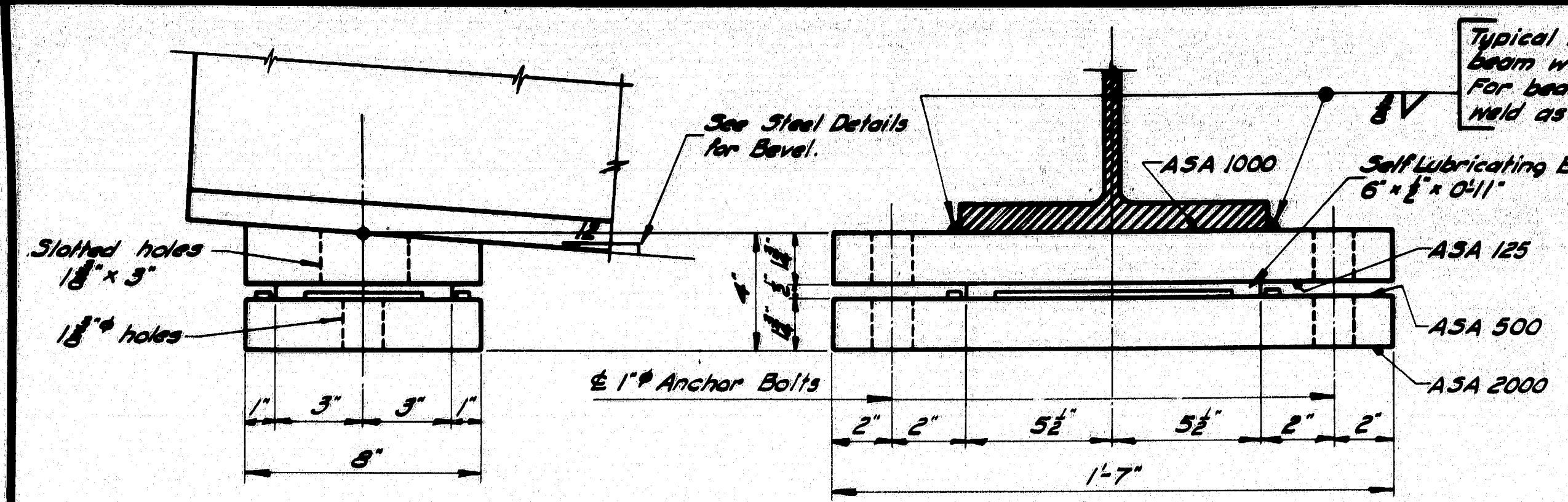
15.24



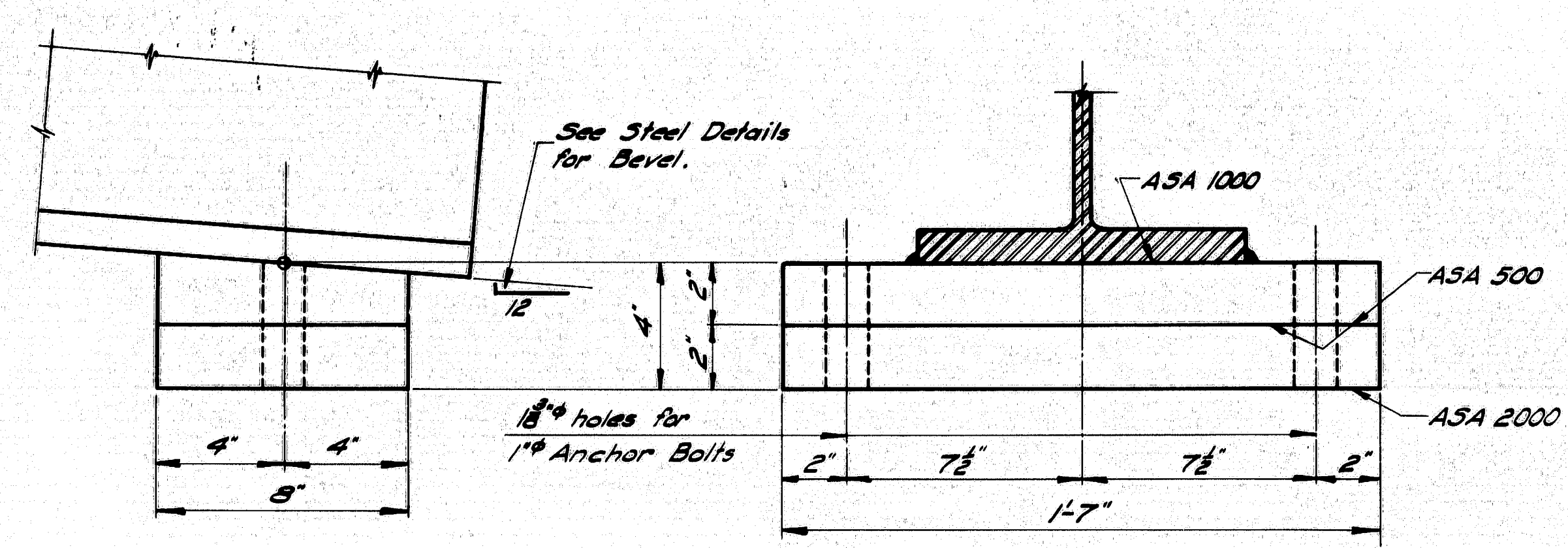
D.P.R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	16-0-112	5	14

NOTE:
FOR INFORMATION ONLY.
LINE ROAD TO BE BUILT
BY OTHERS.

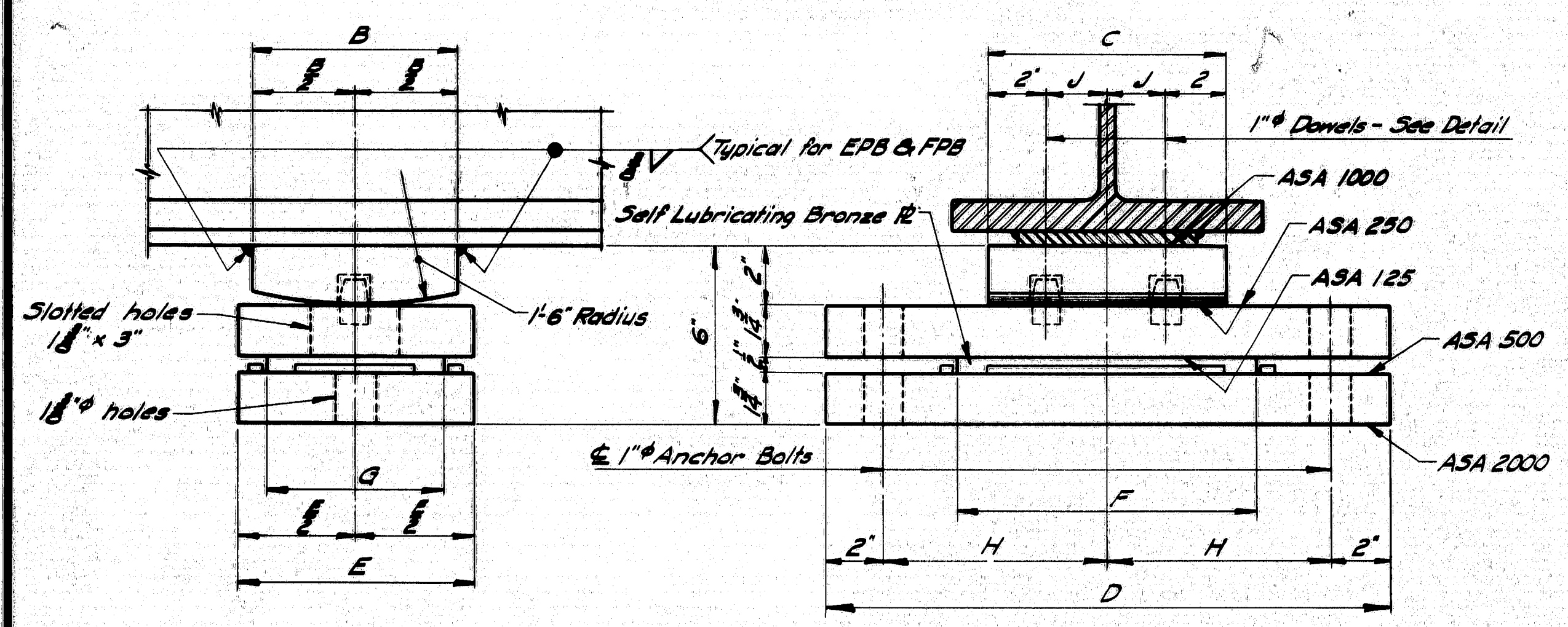
LINE ROAD



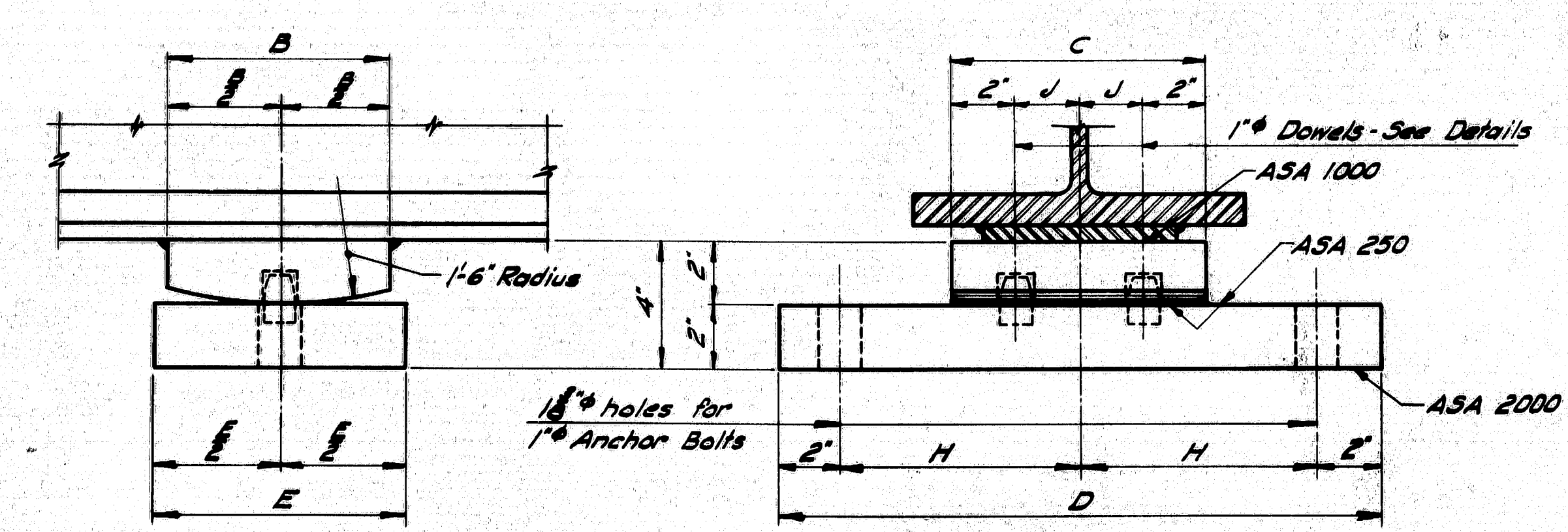
EXPANSION PEDESTAL - EPA



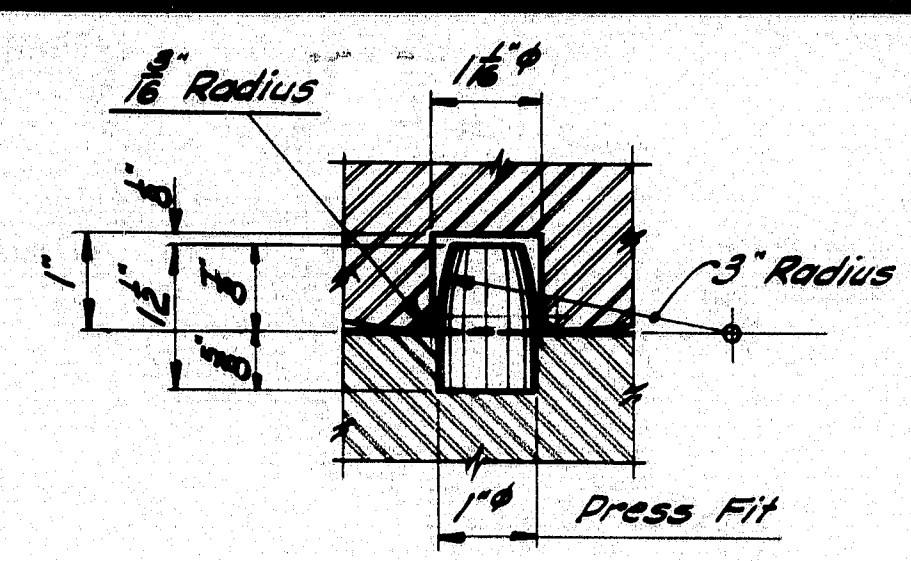
FIXED PEDESTAL - FPA



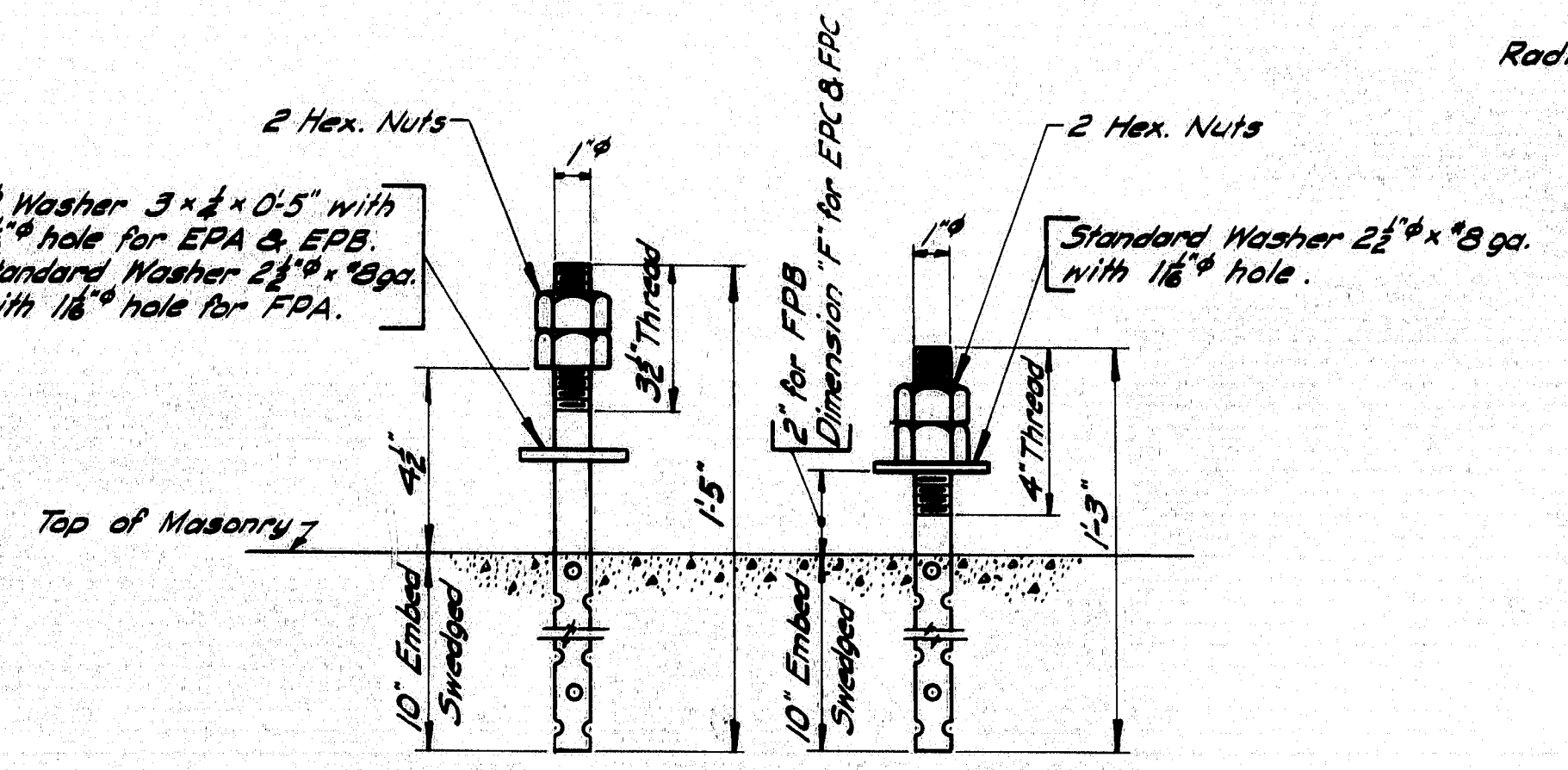
EXPANSION PEDESTAL - EPB



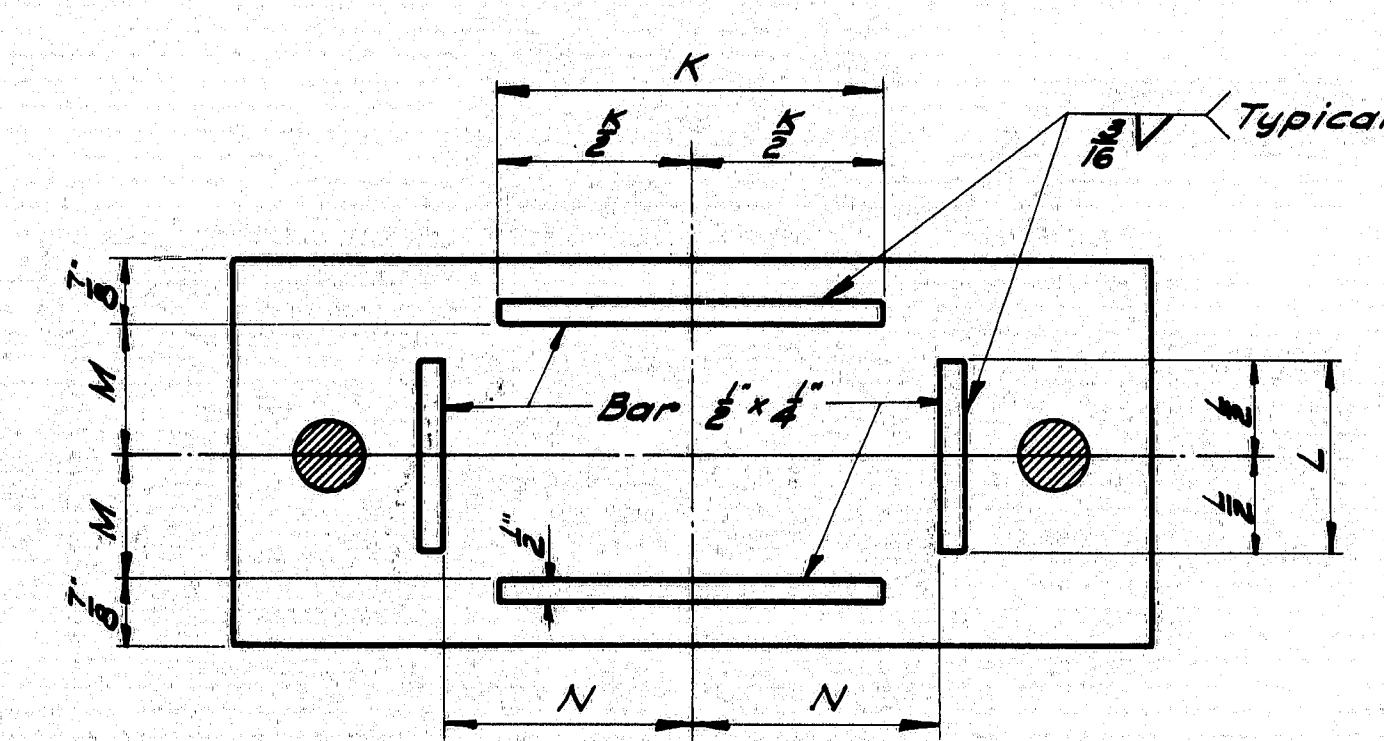
FIXED PEDESTAL - FPB



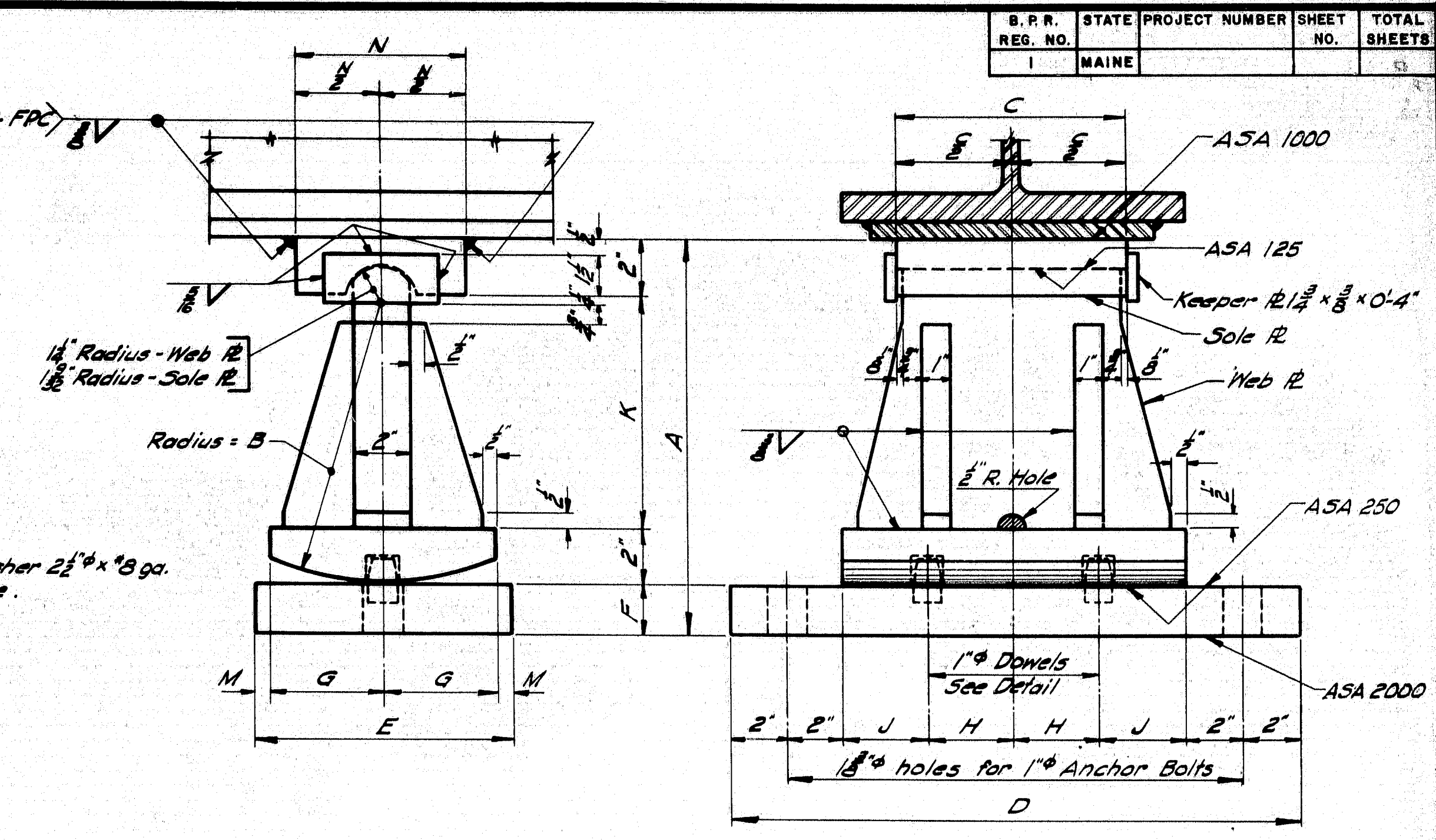
DOWEL DETAIL



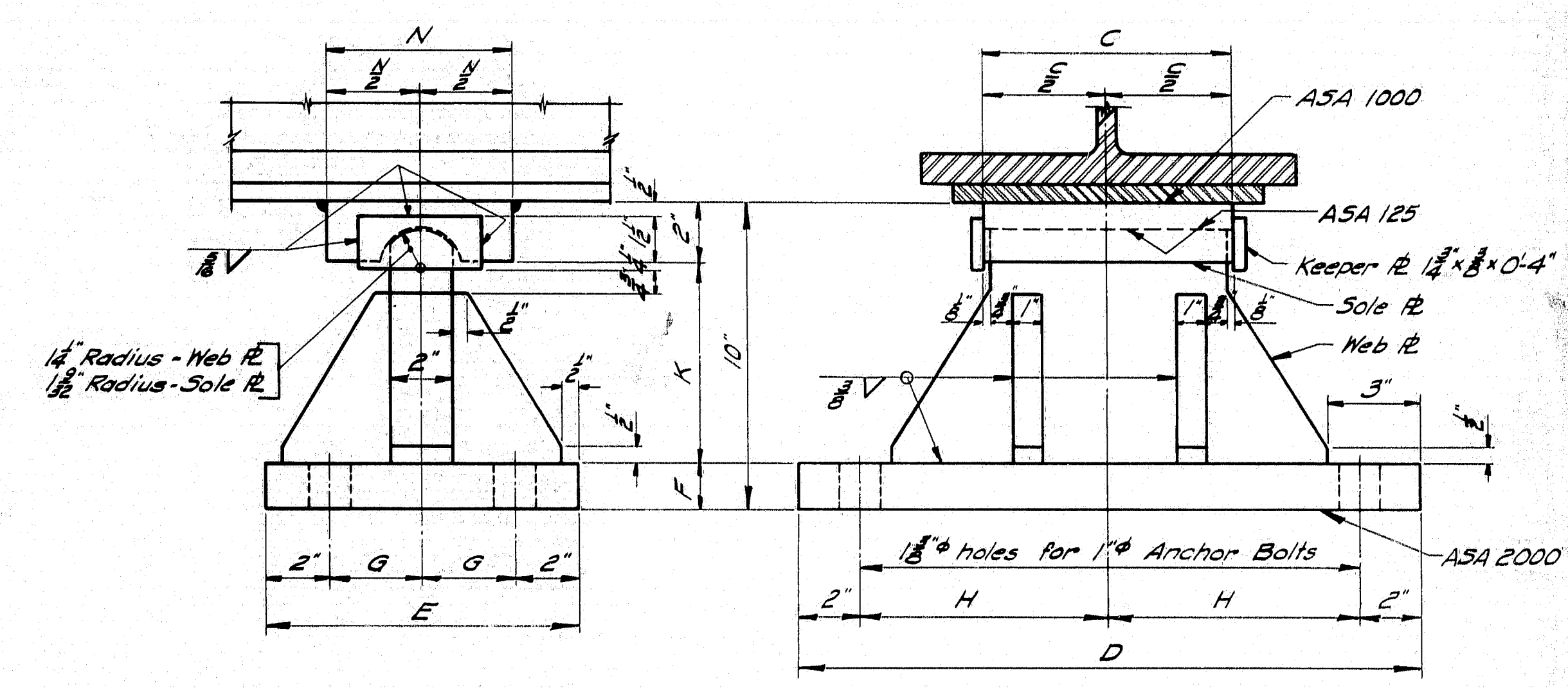
ANCHOR BOLT DETAIL



MASONRY PLATE



EXPANSION PEDESTAL - EPC



FIXED PEDESTAL - FPC

NOTE: At the location of bearing pedestals the concrete bridge seats shall be dressed one inch larger all around than size of masonry plates and to exact elevations shown on the plans. If dressed areas are below the surface of the surrounding bridge seat a small channel shall be cut to the edge of the bridge seat for drainage where required by the Engineer. Channels shall have a min. width of 2", and min. slope of 1/8" inch per foot. No separate payment for this work will be made as it shall be considered incidental to contract items.

DESIGN SPECIFICATIONS

A.A.S.H.O., Standard Specifications for Highway Bridges, 1961, with Interim Specifications, 1961 & 1962

A.S.T.M. STEEL CLASSIFICATION

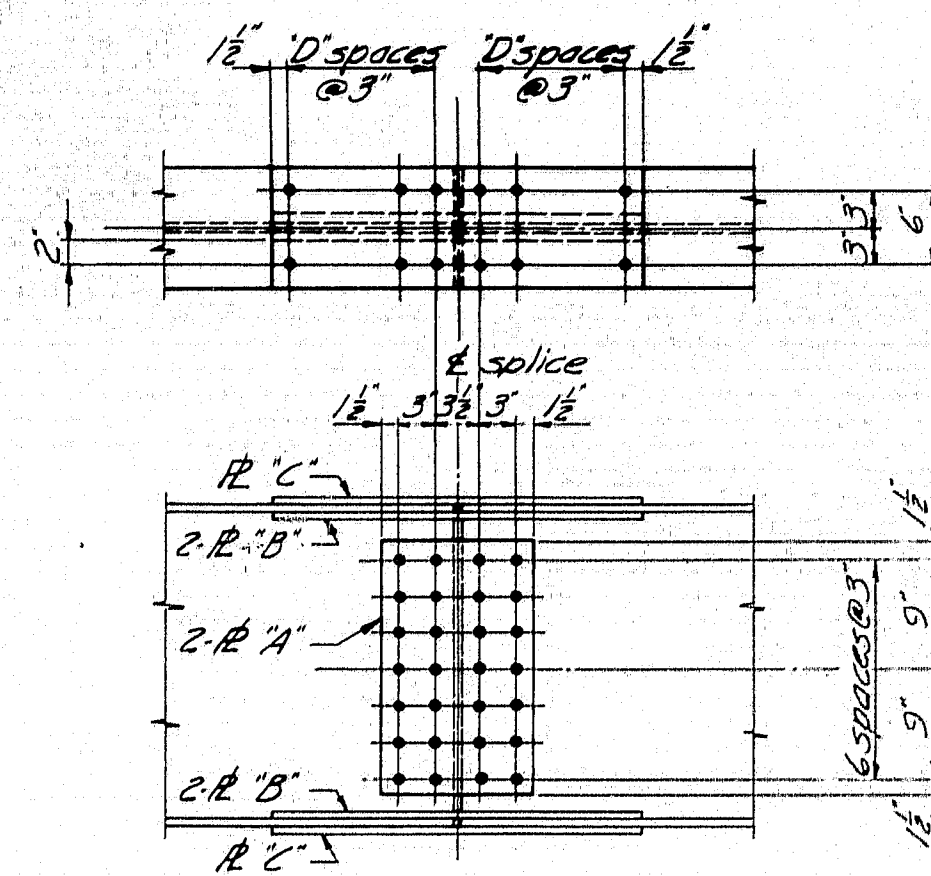
Anchor Bolts - A7, A36, or A307
All other - A36

PEDESTALS - ALLOWABLE LOADS & DIMENSIONS														
Pedestal	Load	A	B	C	D	E	F	G	H	J	K	L	M	N
EPA	132 K	-	-	-	-	-	-	-	-	-	8"	4"	3 1/2"	5 1/2"
FPA	130 K	-	-	-	-	-	-	-	-	-	-	-	-	-
EPB-1	120 K	-	6"	8"	1'-7"	8"	10"	6"	7 1/2"	2"	8"	4"	3 1/2"	5 1/2"
EPB-2	165 K	-	7"	10"	1'-8"	9"	1'-0"	7"	8"	3"	10"	5"	3 1/2"	6 1/2"
EPB-3	224 K	-	8"	1'-1"	2'-0"	10"	1'-4"	7"	10"	4 1/2"	1'-2"	5"	3 1/2"	6 1/2"
FPB-1	120 K	-	6"	8"	1'-7"	8"	-	-	7 1/2"	2"	-	-	-	-
FPB-2	165 K	-	7"	10"	1'-8"	9"	-	-	8"	3"	-	-	-	-
FPB-3	224 K	-	8"	1'-2"	2'-0"	10"	-	-	10"	5"	-	-	-	-
EPC-1	70 K	9 1/2"	6"	8"	1'-8"	8"	1'-2"	3 1/2"	3"	3"	4 1/2"	-	1 1/2"	6"
EPC-2	100 K	11 1/2"	8"	8"	1'-8"	8"	1'-2"	3 1/2"	3"	3"	6 1/2"	-	1 1/2"	6"
EPC-3	130 K	1'-2"	10"	8"	1'-8"	9"	1'-2"	4"	3"	3"	8 1/2"	-	1 1/2"	7"
EPC-4	160 K	1'-4"	10"	8"	1'-8"	9"	1'-2"	4"	4"	3"	10 1/2"	-	1 1/2"	7"
EPC-5	190 K	1'-6"	10"	9"	2'-0"	10"	2"	4 1/2"	5"	3"	12 1/2"	-	1 1/2"	8"
EPC-6	220 K	1'-8"	1'-0"	10"	2'-0"	1'-0"	2 1/2"	5"	5"	3"	14 1/2"	-	1 1/2"	8"
EPC-7	250 K	1'-10"	1'-0"	1'-0"	2'-2"	1'-0"	2 1/2"	5"	5"	4"	16 1/2"	-	1 1/2"	8"
FPC-1	100 K	-	-	8"	1'-8"	9"	1'-2"	3 1/2"	8"	-	6 1/2"	-	-	6"
FPC-2	160 K	-	-	8"	1'-8"	10"	1'-2"	3"	8"	-	6 1/2"	-	-	7"
FPC-3	180 K	-	-	9"	2'-0"	10"	1'-2"	3"	10"	-	6 1/2"	-	-	8"
FPC-4	220 K	-	-	10"	2'-0"	1'-0"	1'-2"	4"	10"	-	6 1/2"	-	-	8"
FPC-5	250 K	-	-	1'-0"	2'-0"	1'-0"	2"	4"	10"	-	6"	-	-	8"

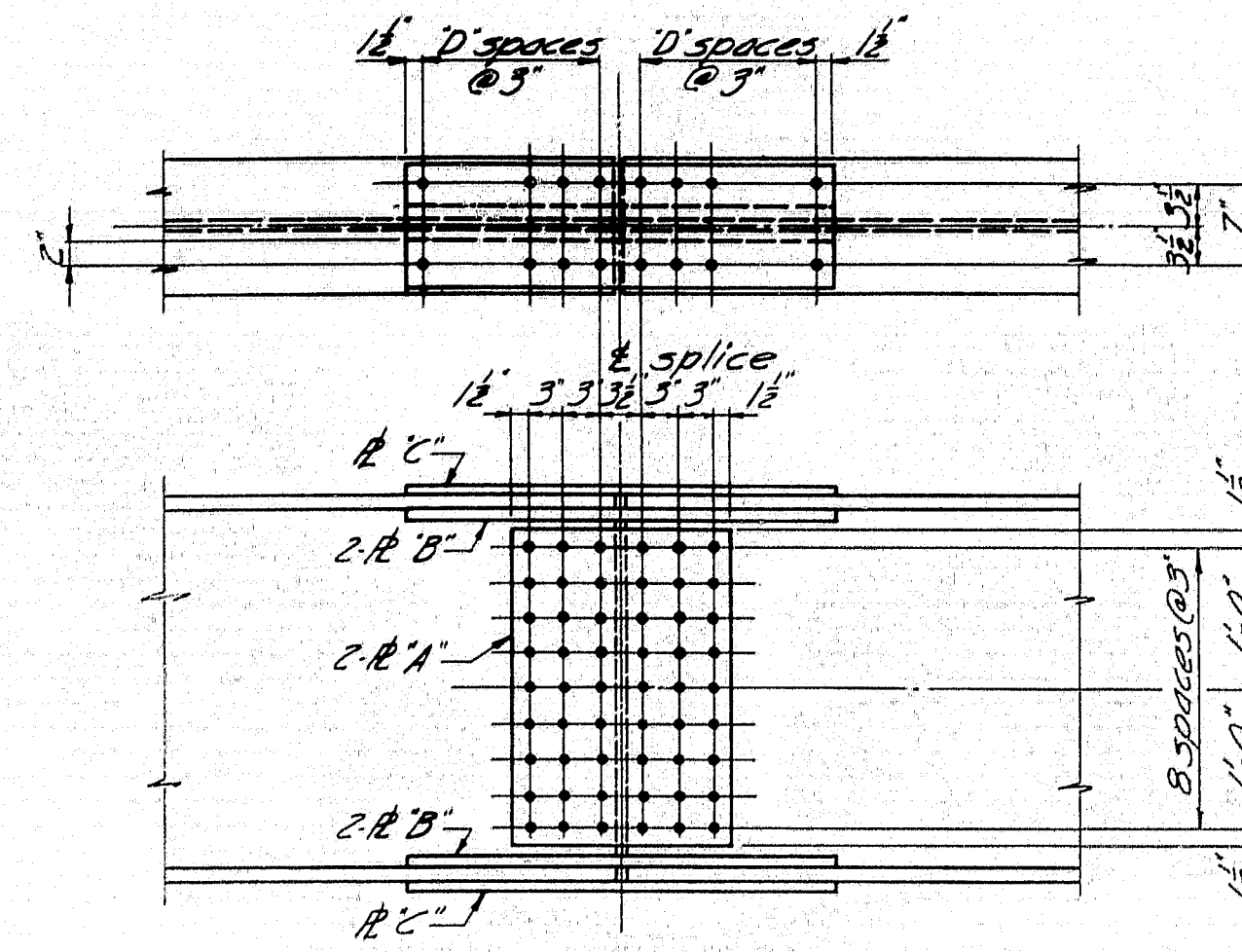
MAINE STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

STANDARD DETAILS
(BD 101 - 64)

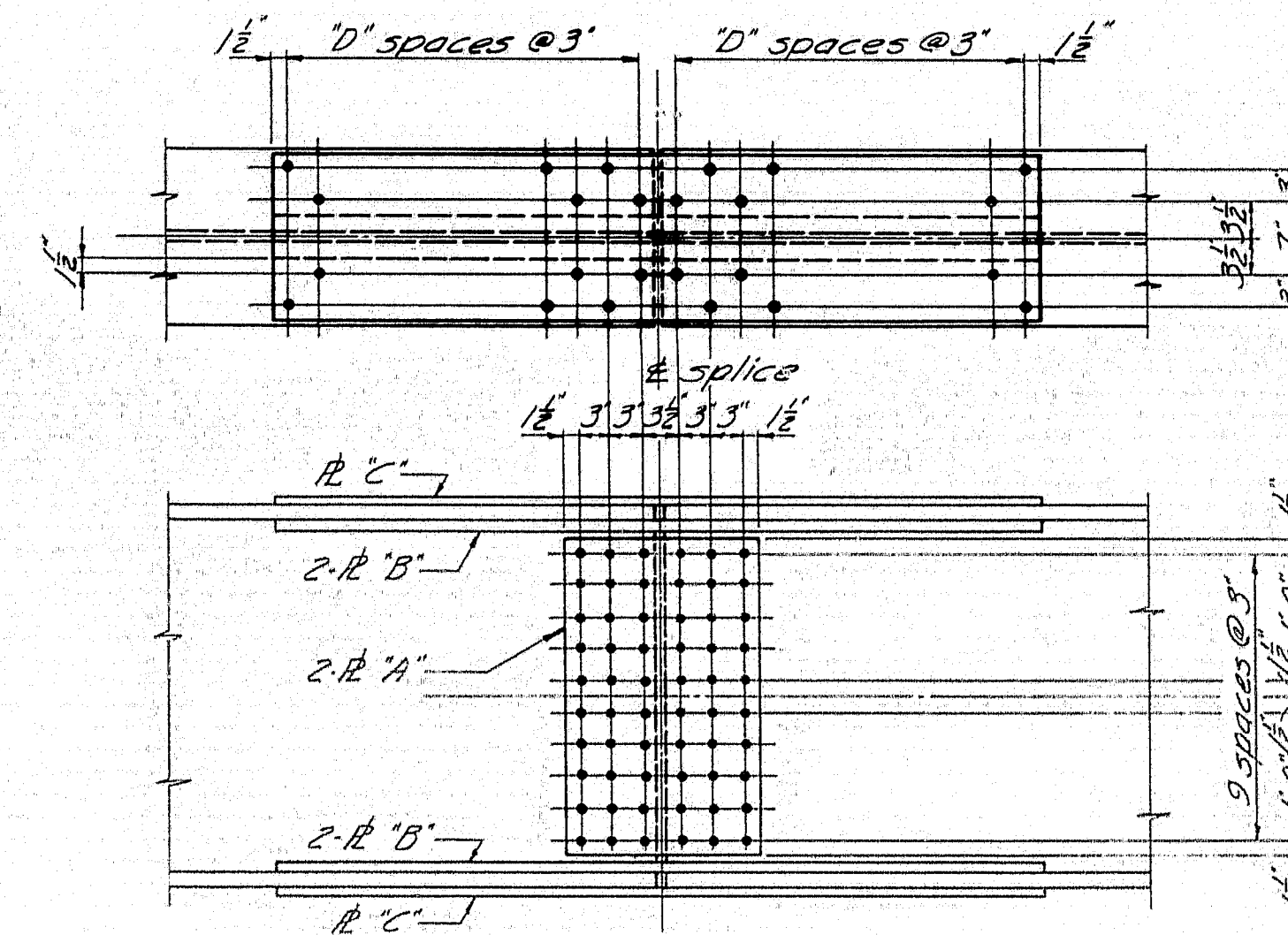
BEARING PEDESTALS



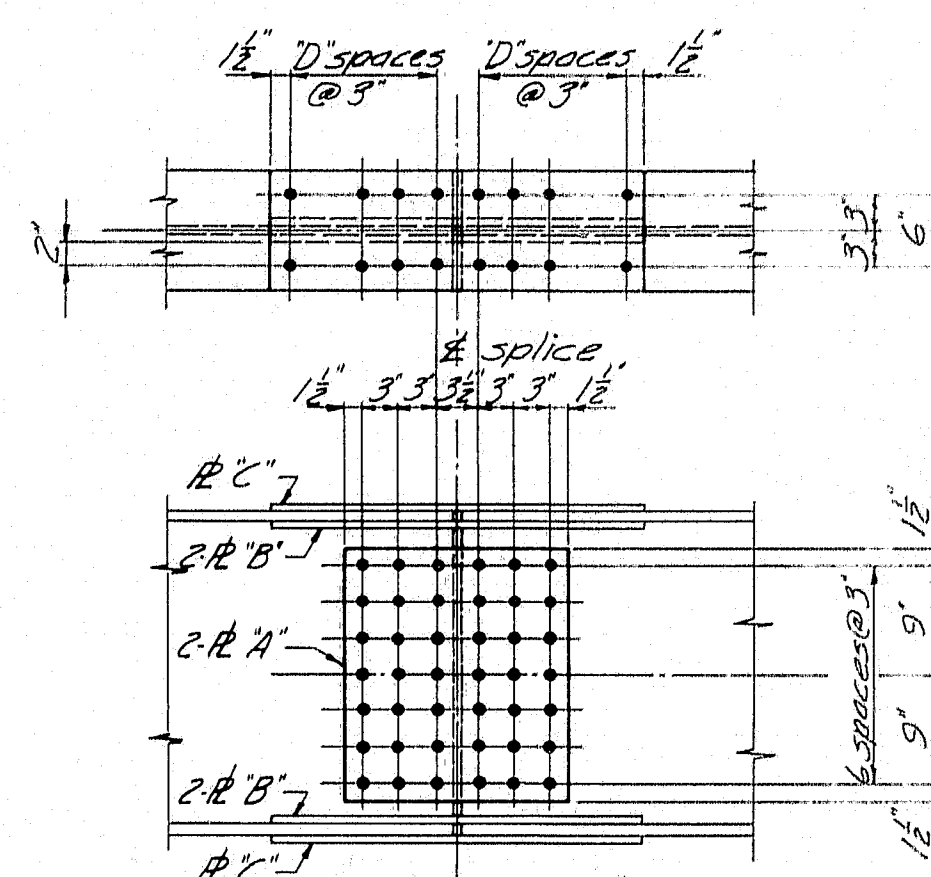
27 WF 84



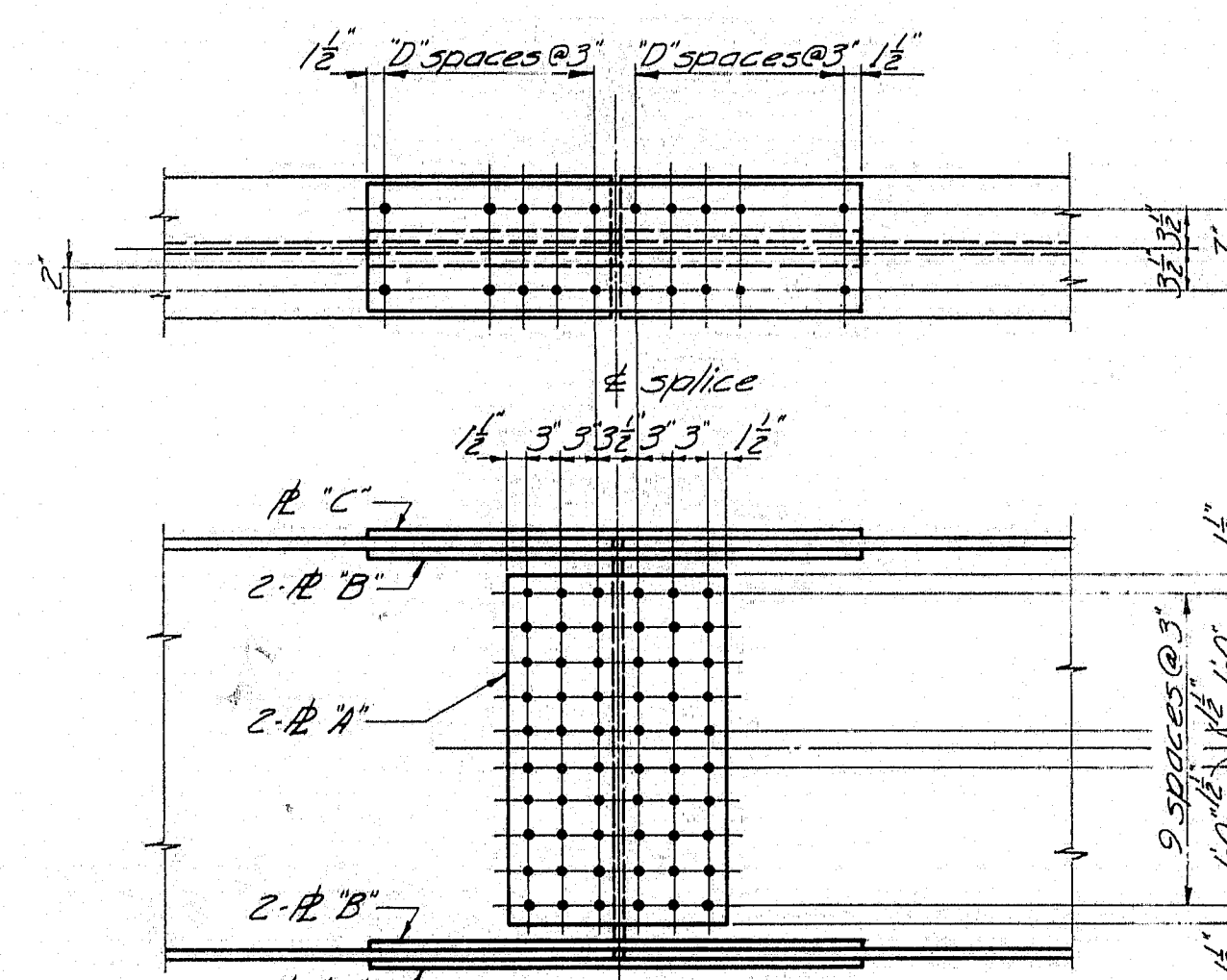
33 WF 118, 130, 141, 152



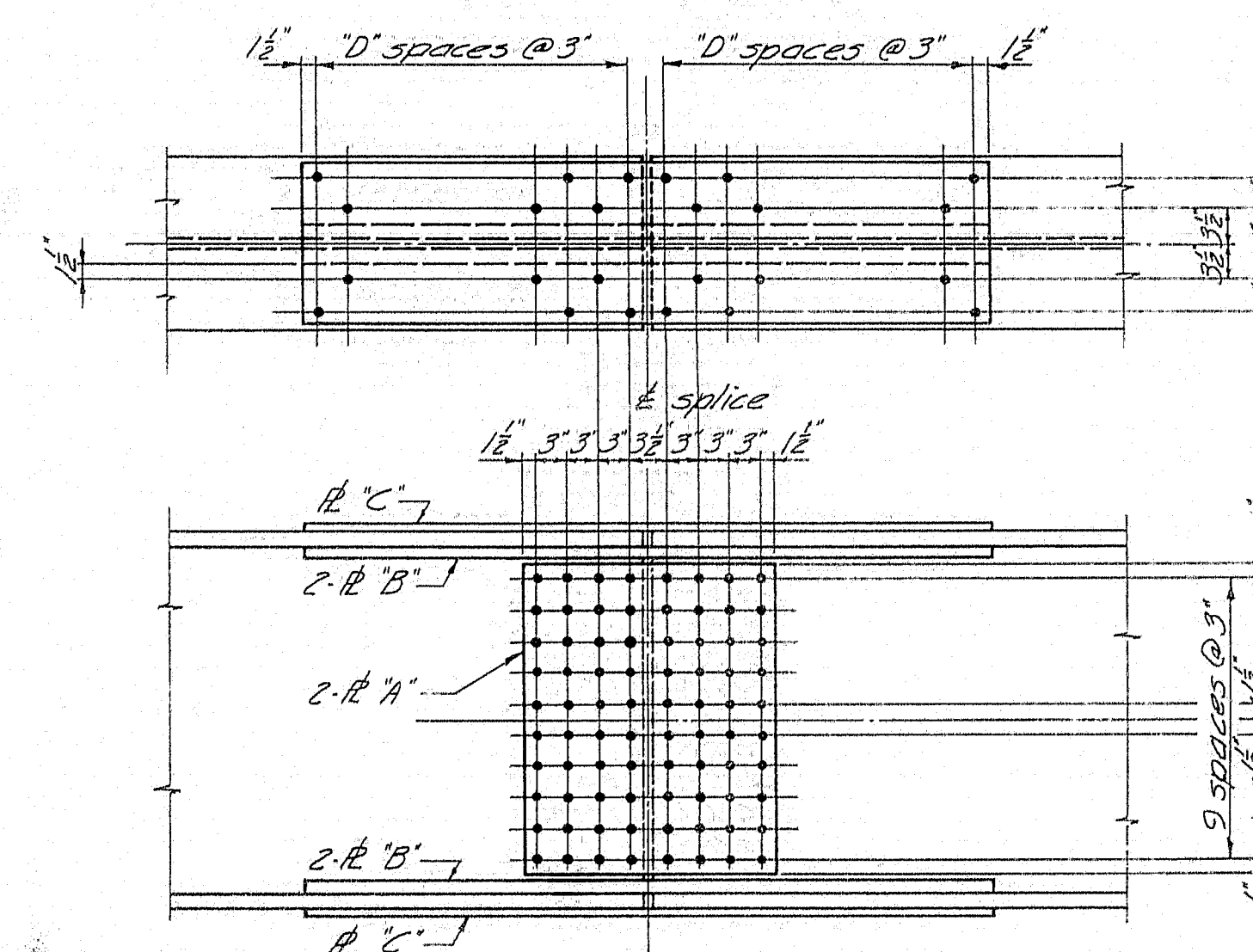
36 WF 245, 280



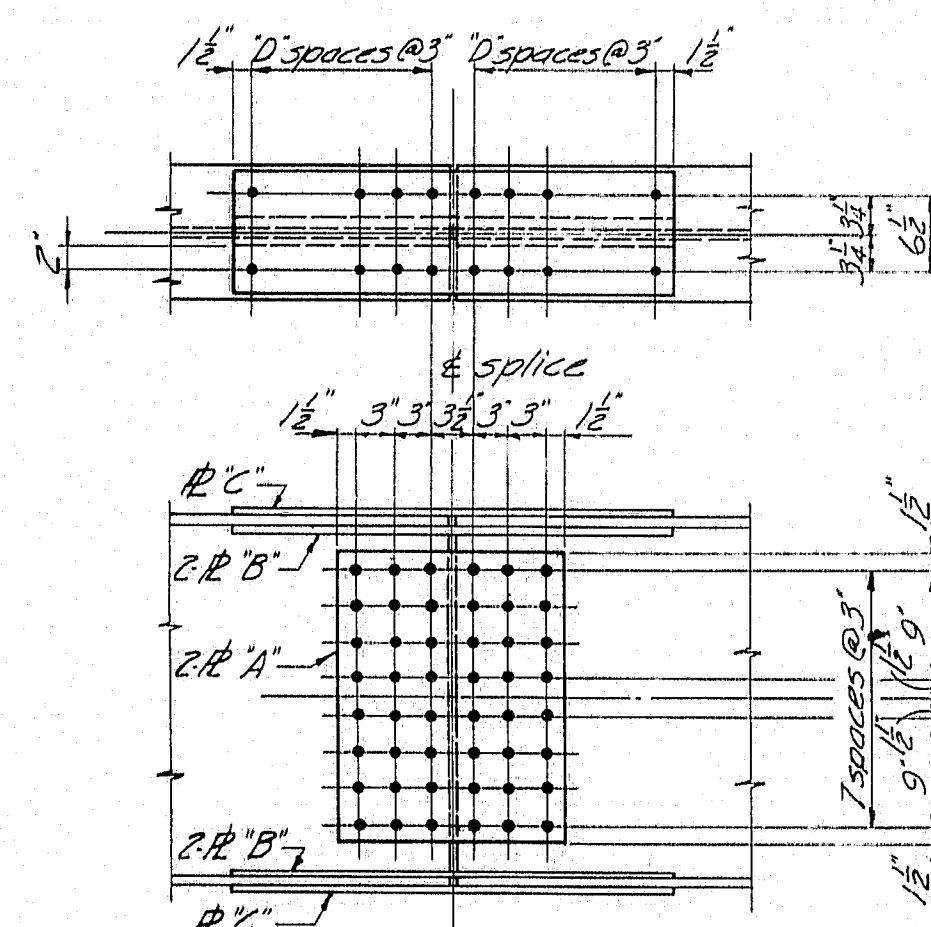
27 WF 94, 102, 114



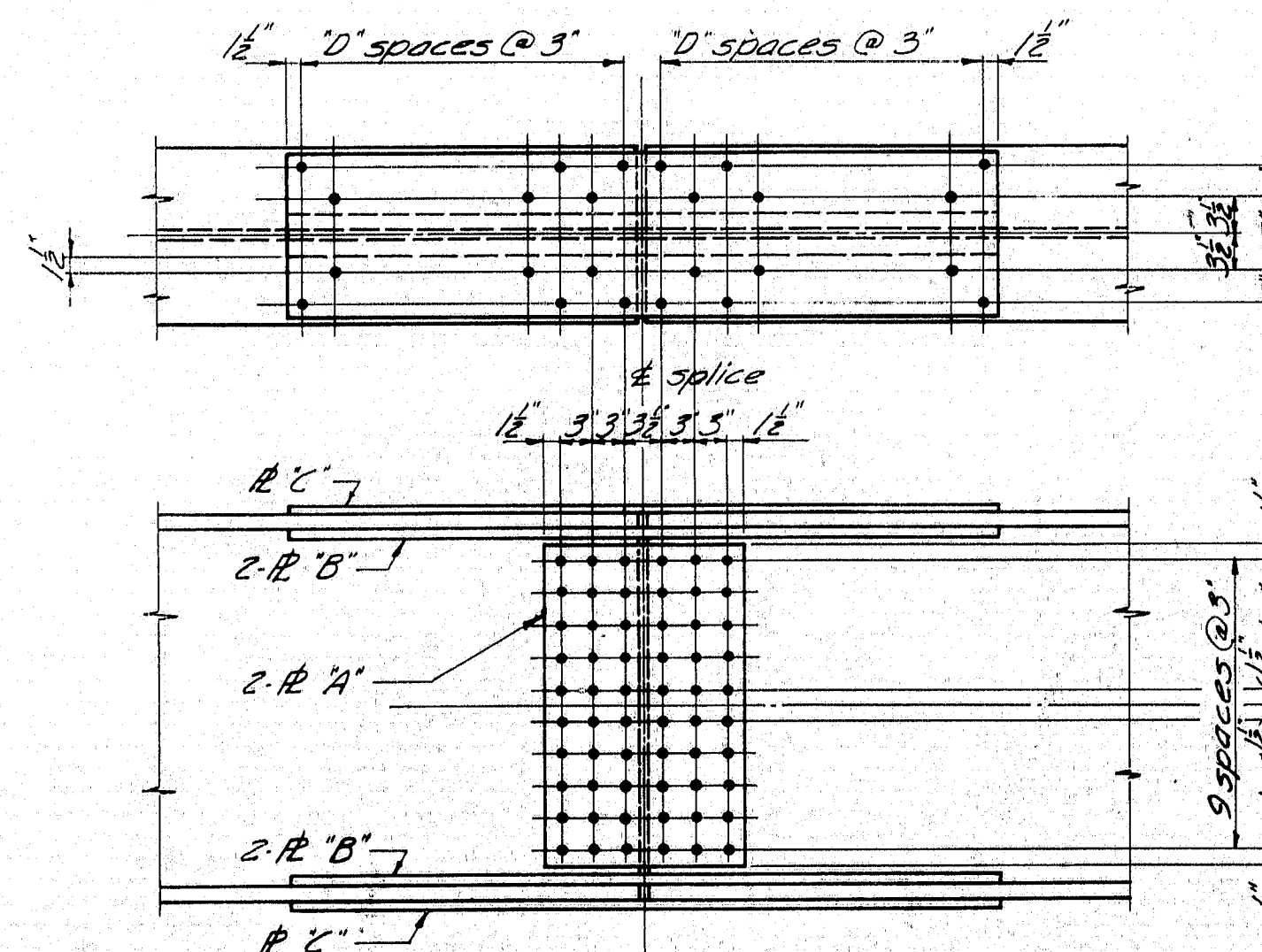
36 WF 135, 150, 160, 170, 182, 194



36 WF 300



30 WF 99, 108, 116, 124, 132



36 WF 230, 260

SPLICE DESIGN, PLATES AND FLANGE HOLES

BEAM	BEND. M.	SHEAR	PLATE "A"	PLATE "B"	PLATE "C"	"D"
27 WF 84	3070 ^K	111 ^K	12 ¹ / ₂ x 1/2	4 x 1/2	10 x 1/2	3
27 WF 94	3520 ^K	119 ^K	12 ¹ / ₂ x 1/2	4 x 1/2	10 x 1/2	3
27 WF 102	3862 ^K	126 ^K	12 ¹ / ₂ x 1/2	4 x 1/2	10 x 1/2	4
27 WF 114	4341 ^K	140 ^K	12 ¹ / ₂ x 1/2	4 x 1/2	10 x 1/2	4
30 WF 99	3921 ^K	139 ^K	12 ¹ / ₂ x 1/2	4 x 1/2	10 x 1/2	3
30 WF 108	4340 ^K	147 ^K	12 ¹ / ₂ x 1/2	4 x 1/2	10 x 1/2	4
30 WF 116	4790 ^K	152 ^K	12 ¹ / ₂ x 1/2	4 x 1/2	10 x 1/2	4
30 WF 124	5170 ^K	159 ^K	12 ¹ / ₂ x 1/2	4 x 1/2	10 x 1/2	4
30 WF 132	5539 ^K	168 ^K	12 ¹ / ₂ x 1/2	4 x 1/2	10 x 1/2	5
33 WF 118	5287 ^K	164 ^K	12 ¹ / ₂ x 1/2	4 x 1/2	11 x 1/2	4
33 WF 130	5918 ^K	173 ^K	12 ¹ / ₂ x 1/2	4 x 1/2	11 x 1/2	5
33 WF 141	6604 ^K	181 ^K	12 ¹ / ₂ x 1/2	4 x 1/2	11 x 1/2	5
33 WF 152	7193 ^K	191 ^K	12 ¹ / ₂ x 1/2	4 x 1/2	11 x 1/2	6
36 WF 135	6473 ^K	191 ^K	12 ¹ / ₂ x 1/2	4 x 1/2	11 x 1/2	4
36 WF 150	7436 ^K	202 ^K	12 ¹ / ₂ x 1/2	4 x 1/2	11 x 1/2	5
36 WF 160	8005 ^K	212 ^K	12 ¹ / ₂ x 1/2	4 x 1/2	11 x 1/2	6
36 WF 170	8574 ^K	221 ^K	12 ¹ / ₂ x 1/2	4 x 1/2	11 x 1/2	6
36 WF 182	9204 ^K	237 ^K	12 ¹ / ₂ x 1/2	4 x 1/2	11 x 1/2	7
36 WF 194	9838 ^K	253 ^K	12 ¹ / ₂ x 1/2	4 x 1/2	11 x 1/2	8
36 WF 230	12574 ^K	247 ^K	12 ¹ / ₂ x 1/2	6 x 1/2	16 x 1/2	10
36 WF 245	13441 ^K	260 ^K	12 ¹ / ₂ x 1/2	6 x 1/2	16 x 1/2	11
36 WF 260	14330 ^K	276 ^K	12 ¹ / ₂ x 1/2	6 x 1/2	16 x 1/2	12
36 WF 280	15551 ^K	291 ^K	12 ¹ / ₂ x 1/2	6 x 1/2	16 x 1/2	13
36 WF 300	16676 ^K	312 ^K	12 ¹ / ₂ x 1/2	6 x 1/2	16 x 1/2	14

GENERAL NOTES

1. Splice connections to be made with $\frac{3}{8}$ " high tensile strength bolts. Holes to be $\frac{1}{8}$ " ϕ .
2. The design bending moment is 90% of the net resisting moment of the beam with an allowable stress of 20,000 p.s.i. The design shear is 75% of the shear strength of the gross section of the web with an allowable stress of 12,000 p.s.i.
3. If beams of different sizes are to be spliced, use splice details shown for the smaller of the beams being spliced unless otherwise directed by design details. See design details for filler thickness. Place fillers to limits of splice plates only, with no extensions.
4. See design details for slopes of beams in order to correctly fabricate berels at the splices.

A.S.T.M. STEEL CLASSIFICATION

High Tensile Strength Bolts..... A-325
Splice Plates..... A-36

DESIGN SPECIFICATIONS

AASHTO Standard Specifications for Highway Bridges, 1961 with Interim Specifications, 1961 & 1962

MAINE STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

STANDARD DETAILS
(BD 103-64)

BEAM SPLICES

JANUARY 1964

95-145

